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THE
FARMER'S LETTERS
TO THE
LANDLORDS of GREAT-BRITAIN:

CONTAINING

The SENTIMENTS of a PRACTICAL
HUSBANDMAN, on various Subjects
of great Importance: Particularly

- | | |
|---|---|
| I. On raising large Sums
of Money by improving
Estates. | remedying the Inconve-
niencies of old ones. |
| II. On the Methods of rais-
ing the Rental of Estates. | IV. Of Paring, Burning,
Liming, &c. |
| III. On various Improve-
ments; such as Draining,
Manuring, Fencing; and
raising new Buildings, or | V. On improving several
Sorts of Waste Lands,
Moors, Downs, Wolds,
&c. &c. |

The whole calculated to shew the great Profit attending
the Improvement of Estates, both in cultivated
and uncultivated Countries.

VOLUME II.

L O N D O N:

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MDCCLXXI.



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A

SIX MONTHS TOUR, &c.

L E T T E R VII.

FROM *Beverley* to *Driffield* is, I think, by much the best turnpike road I have met with in *Yorkshire*; it is an open wold country, cultivated in a very indifferent manner. Around the latter named town, the soil is chiefly clay; lets at about 10*s.* an acre. Farms, from 30*l.* to 120*l.* Their course is,

- | | |
|--------------------|-------------------|
| 1. Fallow | 3. Pease or beans |
| 2. Wheat or barley | 4. Oats. |

They plough four times for wheat, sow two bushels and a peck, and reap at an average twenty-four. For barley they give five ploughings, sow three bushels, and gain in return about three quarters and an half. They plough but once for oats, sow four bushels, and do not get a crop of above

two quarters. Beans they give but one stirring for, sow four bushels broad-cast, never hoe them; the crop three quarters and an half; use them for hogs and horses.

They stir once for pease, sow three bushels, and gain in return about three quarters. They have very few turnips, but plough five times for them; hoe them once, and value an acre of good ones at 3 *l*. They use them only for sheep. Clover they sow with oats, mow it for hay twice, and get three loads an acre; and after it, sow barley.

Their manuring consists of their farm-yard-dung, which they carry out and lay in heaps, but do not stir it over, or mix it with any thing; and folding their sheep, which they do on the pea-land for wheat.

Good grafs lets at 20 *s*. an acre: They have very good dairies. They reckon that an acre will not maintain a cow. The product *per* head they value at 5 *l*. A good one gives in the best season two gallons of milk *per* day. Their winter food is straw, when dry; and at other times clover hay: The calves they let suck only two or three days. The joist of a cow through summer is 32 *s*. 6 *d*.

Their flocks of sheep are from 300 to 500; the folding they reckon the chief profit of them, which they carry on from *May* to *Martinmas*. They keep them all
winter

winter in the field, their turnips being too trifling to mention. The weight of wool *per* sheep is about 3 *lb.* and an half.

In their tillage, they use six oxen and eight horses, for 120 acres of arable land; Four horses in a plough abreast, and do from one acre to one and a half a day. The expence of keeping horses, they can give but little account of; for their oats they give only in the straw, but reckon the amount about 6 *l.* a year. Their joist in summer is 45 *s.*—The food of their working oxen in winter is little besides straw; they reckon both them and horses absolutely necessary.—The price *per* acre of ploughing, 2 *s.* 6 *d.*

They reckon 450 *l.* necessary to take a farm of 100 *l.* a year, half grass and half arable. Land sells at 40 years purchase.

Poor-rates, 9 *d.* in the pound real rent. The poor have very little employment from manufactures; some trifling spinning: Most of them tea-drinkers.

The general œconomy of their farms will be seen from the following sketches. One contains

280 Acres in all	5 Cows
140 Arable	8 Beasts
140 Grass	8 Young cattle
£. 160 Rent	100 Sheep
8 Horses	4 Servants
8 Oxen	2 Labourers.

He fows

25 Acres of wheat 30 Of barley.

Another :

200 Acres in all	3 Cows
80 Grafs	8 Young cattle
120 Arable	400 Sheep
£. 90 Rent	3 Servants
6 Horses	1 Labourer.
6 Oxen	

Another :

70 Acres in all	2 Horses
40 Arable	2 Cows
30 Grafs	100 Sheep
£. 40 Rent	1 Servant
4 Oxen	1 Labourer.

LABOUR.

In harvest, 9 s. a week and board.

In hay-time, 7 s. and ditto.

In winter, 6 s. or 7 s.

All work by the day.

Head man's wages, from 12 l. to 15 l.

Ploughman's ditto, 8 l. or 9 l.

Boy of ten years old, 1 l. 15 s.

Dairy-maid, 4 l. 10 s. to 5 l.

Other ditto, 4 l.

Women *per* week, in harvest, 5 s. and board.

In hay-time, 7 d. a day.

IMPLEMENTS.

A waggon, 10*l*.
 No carts.
 A plough, 15*s*.
 A roller, 1*l*. 1*s*.
 A scythe, 3*s*.
 A spade, 1*s*. 8*d*.
 Laying a share and coulter, 8*d*.
 Shoeing, 1*s*. 4*d*.

PROVISIONS.

Bread,	-	-	$\frac{3}{4}$ <i>d.</i> <i>per lb.</i>
Cheese,	-	-	2
Butter,	-	-	7 18 <i>oz.</i>
Beef,	-	-	3
Mutton,	-	-	3
Milk,	-	-	$\frac{1}{2}$ a pint
Potatoes,	-	-	5 a peck
Candles,	-	-	7 <i>per lb.</i>
Soap,	-	-	6

Labourers house-rent, 30*s*.
 ——— firing, 30*s*.
 Tools all found.

BUILDING.

Bricks *per* thousand, 13*s*.
 Oak timber, 1*s*. 6*d*.
 Ash ditto, 1*s*.
 A mason, *per* day, 1*s*. 3*d*. and board, or
 2*s*. without.
 A carpenter, 1*s*. and board, or 1*s*. 10*d*.
 without.

In *Driffield* are

6000 Acres

14 Farms

300 Acres sheep-walk

1200 Sheep

100 Horses

£. 1300 Rent.

Between *Driffield* and *Burlington*, the country is various, but chiefly open wolds; in them the soil is indifferent, and lets from 2s. to 7s. 6d. per acre; but in the inclosures it is much dearer. That town is a little sea-port, which is supported by a slight trade that maintains ten or a dozen ships, and by the resort of some company to the quay for bathing.

From thence to *Boynton*, the seat of Sir *George Strickland*, Bart. the soil is richer, and chiefly inclosed; but at that place the high wolds are met again. Sir *George* was so obliging as to shew me his woollen manufactory; a noble undertaking, which deserves the greatest praise. In this country, the poor have no other employment than what results from a most imperfect agriculture; consequently three-fourths of the women and children were idle. It was this induced Sir *George* to found a building large enough to contain on one side a row of looms of different sorts, and on the other a large space for women and children to spin. The undertaking was once carried
so

so far as to employ 150 hands, who made very sufficient earnings for their maintenance; but the decay of the woollen exportation reduced them so much, that now those employed are, I believe, under a dozen.

Sir *George* has given his attention somewhat to the improvement of the poor land that surrounds him: He has tried sainfoine with great success for many years upon his wold land; that which was let at 2*s.* and 2*s.* 6*d.* per acre, he has made, by means of sainfoine, worth 20*s.* and 25*s.* One circumstance I remarked, which was the lateness of his hay-time, which he judiciously attributed to the necessity they are under of feeding their grass so late in the spring, that the crop is made very backward; for after the turnips are gone, their sheep and lambs would almost starve, if not so kept. This speaks the necessity of introducing cabbages, or some other vegetable, that will yield plenty of food through *March* and *April*: But I saw not, nor heard any thing of that sort as I passed through this country.

Across the wolds, I could not but regret the wretched management which left such large tracts of land in so uncultivated a state: It lets from 4*d.* to 4*s.* an acre, between *Boynton* and *Honanby*. They plough up the turf, and sow barley, or more often oats, and then leave the soil to gain of itself a

new sward ; this is their management every six years : Whereas all the country would admit the *Norfolk* course of husbandry, of,
 1. Turnips ; 2. Barley ; 3. Clover and ray-grass, for five years ; 4. Wheat : By means of which, the soil would always be clean and in heart, the food for cattle greatly increased, and the farmers better able to pay 14 *s.* per acre, than they now are 4 *s.*

Farms rise from 30 *l.* to a 100 *l.* a year ; They join their flocks for folding, but have no turnips to feed them with in winter and spring.

At *Honnanby*, farms rise to 200 *l.* a year : Their arable lands are in four fields, which throw them into this course ;

- | | |
|-----------|---------------------|
| 1. Fallow | 3. Barley |
| 2. Wheat | 4. Pease and beans. |
- Land lets at about 4 *s.* or 4 *s.* 6 *d.* per acre.

PROVISIONS.

Bread,	-	-	1 $\frac{1}{2}$ <i>d.</i> per <i>lb.</i>
Cheese,	-	-	2
Butter,	-	-	7 18 <i>oz.</i>
Beef,	-	-	3
Mutton,	-	-	3 $\frac{1}{4}$
Milk,	-	-	$\frac{1}{2}$ 3 gills
Potatoes,	-	-	4 a peck
Candles,	-	-	6 $\frac{1}{2}$ per <i>lb.</i>
Soap,	-	-	6

The romantic situation of *Scarborough*, renders it a pleasing view, to travellers who

who have no eye to the amusements of the place. It is destitute of public buildings that attract attention: Even the rendezvous of pleasure, the long-rooms, are paltry holes; by no means worthy the resort of so much good company as this place boasts.

There is a great deal of excellent meadow land not far from the town, that is of a good quality for fattening beasts and feeding cows: Much of it that is let only at 15*s.* or 20*s.* an acre, will fat an ox, *per* acre, of 70 or 80 stone.

I forbear to speak in my own person of the husbandry in the neighbourhood of *Ganton*, the seat of Sir *Digby Legard*, Bart. as he has with the utmost politeness and patriotic spirit, given me a most particular and judicious account of the rural œconomy of that country, with many admirable hints for improvement. I proceed at once to insert it. The very name of its author, known all over *Europe* as one of the most accurate cultivators, will prejudice every one in its favour.

“ Sir,

“ As I apprehend that it will be more agreeable to the plan of your *Northern* Tour, to give you a general account of the state of husbandry in my neighbourhood, than the particular history of those experiments which I have made, chiefly with a view to determine some points which
seemed

seemed doubtful, or to ascertain the most beneficial methods of cultivation, I shall confine myself in this letter to general ideas of improvement, which are peculiarly applicable to a heathy and mountainous country, such as prevails in many parts of this kingdom: The principal of these are the wolds in the *East-Riding of Yorkshire*, *Lincoln*, and *Newmarket-beaths*, and *Marlborough-downs*. These, and some other uninclosed parts of a similar nature, are, I presume, the most considerable tracts of unimproved country in *England* *; and as I imagine the whole to be at present extremely low-rented, thinly inhabited, and capable of great improvement, it becomes a national object, as well as of the utmost importance to the proprietors, to examine in what manner this immense extent of waste land may be enabled to yield a greater produce both of grain and fodder, maintain a greater number of inhabitants, and thus strengthen the community whilst it enriches individuals. My situation on the edge of the wolds, my long and constant residence in the country, and my attention to every object of improvement, has in some degree enabled me to give hints on

* Sir *Digby*, I apprehend, excludes the Moors, which are certainly more extensive than any other waste tracts.

this subject; and the advantage of above five thousand acres of uninclosed wold land, not far from my house, has afforded me a spacious field of experiment: Nor has the utmost care on my part been wanting to explore the natural advantages and properties of the soil, to examine the defects of its present state, and to apply the most obvious remedies; for I am not of those refiners who chuse to deviate from the beaten path, in search of an ingenious discovery, when, by close attention, remedy may be found much nearer home. It is acknowledged that nature does nothing in vain; and I cannot help thinking, that every soil either contains within itself a remedy for its original barrenness, or at least that no large tract of country is destitute of some peculiar productions adapted to its fertilization, so as to render it fit for the production of vegetables, and the support of animals: Thus has bounteous Providence dispensed its blessings with an equal, as well as liberal hand: The bleak mountain and barren rock contain the precious ore and sparkling gem, whilst the fertile plains and vallies are covered with wood, or produce corn and herbage: Every part of nature is conducive to the support, ease, and happiness of man; but as the exertion of the mental faculties, as well as bodily labour, is requisite for the well-being of the human

human species, so the treasures of nature are not always obvious, nor her productions spontaneous. The effects of lime, chalk and marle, and the advantage arising from a proper mixture of different soils, are discovered by strict observation and diligent experiment; nor will the richest land yield its increase in grain, without a painful cultivation.

To make these observations applicable to the soil in question, I shall, as accurately and as briefly as I am able, describe the soil of the wolds, enumerate the natural difficulties attending its improvement, describe the use it is at present put to, mention the rent, and the methods of cultivation now in use; and, lastly, I shall endeavour to point out the easiest and most likely means of improving it to the utmost. Nor are my schemes merely ideal, nor is my plan destitute of probability. An extensive practice of many years, a series of experiments conducted with care, and applied to a great variety of vegetables, corn and pulse, as well as the artificial grasses, repeated in different soils, seasons, and situations, enable me to build not on theory alone, but on the more solid foundation of facts: These cannot mislead; and, amidst the volumes written on the subject of Agriculture, it is to be lamented that we meet with so few experiments. I consider these as the basis of true husbandry:

husbandry: They are useful hints, which an able cultivator will not servilely copy, well knowing that so much depends on circumstances, seasons, and unavoidable accidents, that two experiments scarce ever succeed exactly alike; but he will use them as a skilful painter appropriates the beauties of landscape; he contemplates the various objects which nature presents to his view, and, full of that idea, forms his picture. But the most useful of all experiments, are those of one's own making; they make a lasting impression, and are the source of real knowledge.

The estate where I have resided several years, consists of upwards of six thousand acres, and contains three villages at about a mile's distance from each other, and nearly in the center of the estate: The inhabitants were, at my first settling in the country, about one hundred and fifty in number, and are now encreased to two hundred. The uninclosed parts of this estate, or what is called Wolds, of 5000 acres, have never been let for more than a shilling *per* acre; and what I here say of a particular parish, is applicable to a very extensive country, 20 miles long, by 15 broad. The soil of the wolds is in general a light hazle mould, in some places intermixed with small stone, flint, or gravel; the depth of soil is from three inches to a foot, in general not less
than

than five inches : Underneath there is a white lime-stone rock, by some called chalk, but I think improperly ; it is more of the nature of marle : This stone rises often in large blocks, and is used in building and for lime ; it is hard, but not of a very durable nature ; for if it be exposed to wet and frost, it soon cracks and moulders away ; but if the walls built with it are kept well covered, it will last for ages : After a time it encrusts with a moss, which preserves it. The general use made of the open wolds land is to stock it with sheep, and cultivate a small part with the plough : But this tillage lying at a great distance from the farm-houses, which are all (in the parish I speak of) situated at the foot of the hills, it is impracticable for the farmer to get his dung conveyed thither at any moderate expence ; he never attempts it. All the manure this land gets is from the sheep-fold ; and were he content to plough no more than he can thus well improve by twice folding, it would be well ; but the rage of plowing is so great, that he every year has been accustomed to plough up a fresh part of his sheep-walk, to take a crop or two, and then let it lie fifteen or twenty years till the natural grass has again formed a kind of turf, but it will sometimes be forty years before the land is completely sodded over. This ruinous practice is but too common ; and where it has
long

long prevailed, the farmer seldom has a threefold increase. He sows four bushels of oats and three of barley, and is happy if he reaps twelve bushels of the former, and nine of the latter. He may plough half an acre in a day with two horses; therefore, his crop being worth 18*s.* if we deduct 12*s.* for seed, tillage and rent, his profit is 6*s.* but the value of the straw is not equivalent to the expence of mowing, binding, and leading home; 2*s.* ought to be charged for those articles; and thus is his profit reduced to 4*s. per* acre.

Our farmers stock nearly in this proportion, *viz.* a sheep for every acre; a flock of 500 sheep requires a sheep-walk of 500 acres, besides a winter's supply of fodder. These sheep are small, and when fat, weigh 12 or 14 *lb. per* quarter; the fleeces weigh 3 *lb.* at a medium, which is scarce worth 2*s.* In this light soil they seldom use more than two horses to a plough, and never more than one man, or a boy: Indeed, I think a driver with two horses quite unnecessary. I have been surprised in several counties, to see two men and four able horses tilling the land, where, I am certain, a man and two good horses would have performed the same work with ease. Our prices for common husbandry work are as follow, *viz.*

	£.	s.	d.
Ploughing an acre of land in til- lage - - -	0	4	0
Ploughing an acre the first time from the sod, costs - -	0	6	0
Annual wages of a compleat ploughman, at a medium,	12	12	0
Annual wages of a boy about six- teen years old, - -	8	8	0
The daily wages of a labourer in the summer, are - -	0	1	0
In the winter, his wages are	0	0	10
A carpenter <i>per</i> day, - -	0	1	6
A mason <i>per</i> day, - -	0	1	8
The day's work of a team, consist- ing of four oxen, two horses, one man, and one boy, -	0	5	0
Leading a tun of coals or timber from a sea-port nine miles di- stant, - - -	0	5	0
A tun of coals, including turn- pikes, &c. costs - -	1	4	0
A chaldron, or 32 bushels, of quick-lime, costs - -	0	12	0
The same quantity burnt in one's own kiln, costs - -	0	7	0
A lime-kiln built of brick, with two eyes to hold 20 chaldrons,	15	0	0
Walling farm-houses <i>per</i> rod, <i>viz.</i> 7 yards long, 1 yard high,	0	4	0
Fir-timber for farm-houses, lead- ing included, <i>per</i> foot, -	0	1	0
Brick,			

Brick, including leading 6 miles,	l.	s.	d.
costs <i>per</i> thousand	-	0	16 0
Pantiles <i>per</i> thousand	-	2	10 0
A rood of wall, including getting up stones, lime, and building,	0	10	6
<i>N. B.</i> The getting up is 5 <i>d.</i> <i>per</i> load, leading as much, and 4 good loads will build a rood.			
A tiled barn, consisting of three roomsteads or bays, costs, of these dimensions, <i>viz.</i> 45 feet long, 15 feet broad, walls 10 feet high to the square, built of stone and fir-timber,	35	0	0
Rough stone walls for fences, built without mortar, <i>per</i> rood,	0	4	0
Plaistering the inside walls of farm-houses, <i>per</i> yard,	-	0	0 2
A plough complete, including iron,	-	0	10 6
A drill-plough, <i>viz.</i> <i>Tull's</i> two- wheeled, one with wood feed- boxes,	-	2	10 0
<i>Du Hamell's</i> barrel-drill, with 3 shares, costs	-	2	8 0
To hoe an acre of turnips,	0	6	0
To hand-hoe the partitions of an acre of corn on 5 feet ridges,	0	2	0
To horse-hoe the intervals of ditto, drilled in double rows,	0	1	0

Of the 5000 acres uninclosed on the high wolds, there may probably be about 500 acres in tillage, half of which is sowed each year with barley, and half with oats; the produce may be, at a medium, 8 bushels of the former grain, and 12 of the latter *per* acre; consequently here is an annual produce of 250 quarters of barley, and 375 quarters of oats: Reckoning the barley at 18*s.* *per* quarter, and the oats at 12*s.* the value of this annual produce of corn is 450*l.* The value of the wool may be about 500*l.* I say nothing of the value of near a 1000 lambs bred every year, nor of the increasing value of the wethers and hogs*, because the winter's sustenance of the flock, will be at least an equivalent to the profit on those articles: The winter keeping of the sheep will cost 2*s.* 6*d.* *per* head, and it is but too true, that the open wolds produce neither hay nor turnips. Thus we see, that 5000 acres of open wolds maintain about 100 inhabitants, and produce 625 quarters of corn; and that the annual value of the corn and wool is 950*l.*; and yet I do not doubt but I shall be able to demonstrate, that the same individual land may, in a few years. and at no very

* Young sheep.

great expence, maintain 500 inhabitants, instead of 100, produce 3750 quarters of corn, instead of 625 quarters, support twice the number of cattle, and let for 8 times the present rent. The natural difficulties and inconveniencies to be encountered in an undertaking of this kind may be reduced to the following heads; *viz.* The want of water; scarcity of wood, both for fuel and fencing; and want of shelter: I do not reckon the difficulty of procuring manure as any objection, because farm houses, cattle, and inhabitants, will of course bring a supply of dung along with them.

As to the first and grand objection, *viz.* a deficiency of water, it is not insurmountable; for wells have been sunk with success in the very highest places: scarce a village on the wolds is without a pond at least, which collects and holds the rain-water, and furnishes a supply for cattle, and every other purpose, except drink for the inhabitants. And it is an old, and I believe a just remark, that as much rain falls annually on the top of every house, as is sufficient for the people within it: This may easily be collected, especially from tiled buildings by spouts, and preserved in cisterns; and if foul, it may be filtered and made potable: The ponds are generally situated in some low place, so as to catch the water which runs in streams from the higher

ground after every shower, and the natural stony, or gravelly bottom, becomes, by being trod by cattle and softened by wet, an impenetrable cement, and holds water extremely well. I have made some ponds of this kind, which I believe will answer perfectly. If a large supply of clear water should be required in a very high situation, I imagine an engine might be contrived, so as to pump a copious stream, by means of sails turned by the wind: Water may certainly be raised by horses from the deepest wells. As to wood for fuel and fencing, true it is, that this country does not at present furnish it; but it is no less true, that it is capable of furnishing enough for every æconomical purpose: The hedges, and hedge-row trees round every village, are a proof that the soil is not improper for wood; and some very thriving plantations on the tops of the hills, which a few gentlemen have had courage to raise, will be a lasting monument to their praise, as well as an example for others to imitate. Though the *Scotch* fir has been usually selected for these trials, and has succeeded, yet the ash will do as well, and is a much more valuable tree: For ploughs, fellies of wheels and axles, for sheep bars, and for the coopers use, no tree is equal to it; it is besides a very quick grower, and springs admirably

admirably from the old root. I confess that some plantations on the wolds have failed, but the failure has generally been occasioned by an insufficient fence, whereby the plants have been ruined by sheep, their greatest enemy ; or they have not been planted thick enough at first : This is a common, but a capital error. I find by experience, that nothing is so essential to young plants as warmth, it is more material than depth or goodness of soil. Trees grow quicker and larger in good, than in bad land, but some kinds will grow in any soil : without shelter, no trees can exist. Remove some rich earth from a valley to the top of a mountain, plant a single tree therein, and water it when necessary, no art will make it prosper. When trees are set very close together, so as at first almost to touch each other, they not only afford warmth by breaking the force of winds, but supply constant moisture to the roots ; the rain and dew is not so soon exhaled, and the stagnation of air occasioned by the shade, furnishes that putrid heat and fermentation so necessary for the purposes of vegetation.* The mellowing and enriching the ground by a crop of turnips,

* This is an admirable observation, and cannot be too much attended to.

and all the leguminous tribe which afford most shade, evince the truth of this observation. Raising wood in a bleak and exposed country, is not only a desirable object, as affording a supply for fencing, fuel, implements of husbandry, and for buildings, but has this additional excellence, that if the plantations are discreetly placed, and the inclosures properly bordered with wood, all the adjacent land is considerably benefited by being protected from the rage of impetuous storms; the grass grows better, and the cattle thrive much more on account of the shelter; Nor do I believe, that low-rented land, especially the sides of steep hills, can be turned to more advantage than by planting them. For instance, I have an inclosure of about six acres on the top of a high hill, which, 30 years since, was planted with *Scotch* fir, *ashes*, and *beech*; the trees are now at a medium 25 feet high, each plant will make four rails, and is worth 1s. 6d. they stand at about six feet distance from each other, therefore the six acres contain 7260 trees, valued at 544l. 10s. The fencing this plantation and repairs cost 30l, the plants four years old at 5s. per 100, cost 18l. the rent of the land, before the inclosure, was 1s. per acre. Deducting then 50l. for expences, the produce of six acres, in 30 years, is 494l. but the compound interest on 50l. at 4 per cent, will, in 30

2

years,

years, amount to above 60*l.* and there still remains a clear profit of 430*l.* *

As there may be some difficulty at first to procure posts and rails for an extensive inclosure, and as even a post, a double rail, and a bank, is hardly sufficient to turn sheep, I would recommend it to those adventurers who are about to inclose, and can afford to lay out a little money extraordinary on an excellent fence, to have recourse to the natural produce of the country, and make use of dry stone walls. I know that a strong prejudice prevails against these materials, that it will be urged that the stone is perishable, and that if this kind of fence was proper, it would long ago have come into general use, as the whole country abounds with stone: But let us not take opinions on trust, or fancy with the vulgar,

* Expences	—	—	—	£.48
Compound Interest	—	—	—	60
30 Years rent	—	—	—	9
				117
Product	—	—	—	494
Expences	—	—	—	117
Profit	—	—	—	377

Which is *per acre per annum* £. 2 : 2 : 10. on the land from which the farmers make with much difficulty 4*s.*

that any thing is impracticable, only because it has not yet been put in practice: The most obvious improvements have lain hid for ages. I have been making experiments for some years past on the durability of the white stone, and have built several fence walls with it in the most exposed situations, which have hitherto withstood the weather perfectly: The only precaution I used, was to dig up the stone early in the spring, that it might have the whole summer to dry (it is naturally very damp and moist), and so be better able to resist the frosts of winter, and to cover the walls with a projecting coping either of whins or fods. This secures them from perpendicular rains, and though the sides are exposed to beating storms, the wind which blows through presently dries any moisture occasioned by the weather: Indeed I find, that the more open the walls are built, the less liable are they to perish. That part next the earth is in most danger; and, if it should be found necessary, the lowest course may be laid with flint, with which the country abounds, and which is quite durable. These fence walls are two feet thick at bottom, and one at top, are four feet and a half high exclusive of the coping, and seven yards in length cost about six shillings; but the price must in a great measure depend upon the distance of leading from the quarry, and on the ease
of

of getting up the stones. In stating the above price, I suppose, that the stone quarry is not above five or six hundred yards from the work, and that a good labourer can get up at least two loads in a day. A bank with a post and double rail, with us costs 3*s.* *per* rood, is hardly to be depended on, at first, as a fence for sheep, and is perpetually out of repair. But though I strongly recommend a trial of these stone fences, I would by no means exclude the planting of quickwood hedges, which afford the best shelter, and are highly ornamental: A double fence, at ten or a dozen yards distance, and the intermediate space planted thick with trees and hedges and underwood, would be the most sightly, the most convenient, and the most profitable.

I have inclosed 300 acres on the top of the wolds, and have laid down the greatest part with various kinds of grasses: Sainfoine makes the most general improvement, but it does not succeed in all parts alike, and indeed in some will not do at all; where the soil is shallowest and most stony or gravelly, it prospers best: The greatest part of my sainfoine is drilled in rows a foot asunder, this takes but half the seed, and brings as good a crop as that which is sowed broad-cast. White clover, ray-grass, rib-grass, and burnet, succeed pretty well with me; these grasses taken at an average, a
good

good year with a bad one, and 30 or 40 acres together, yield near a ton of hay *per* acre, on land which never bore any hay before it was inclosed : I esteem this land to be now well worth 10 s. an acre.

It is remarked, that lime seldom does well upon limestone land ; and indeed, though I have often tried lime, it has never answered compleatly : The sheep-fold is the only manure we can depend on ; pigeons dung is very powerful and easily transported, but we cannot get enough of it to enrich much land : I keep about 500 sheep, and can fold, from *May-day* to *Michaelmas*, 30 acres twice over. I seldom lay down more than 40 acres in a year with grafs : I generally give the land three or four plowings, and sow it in *April* or *May*, with grafs feeds, with or without corn ; the latter way usually succeeds best. I make my inclosures large, containing 40 acres at least, by which means the fencing is less expensive. To inclose 40 acres with a double fence, at 6 s. *per* rood, will cost 150 l. The preparation of the ground will cost 42 l. For the ploughing an acre four times, and the feeds requisite, is worth a guinea : The interest of 192 l. at four *per cent.* is about 7 l. 14 s. but the annual advance by the inclosure, I have found to be at least 8 s. *per* acre ; consequently the advance on 40 acres is 16 l. or above eight *per cent.* interest
on

on the money laid out. But there are two things more to be taken into the account; one is that where a large inclosure takes place, the side of one close is a fence for the adjoining one, which reduces the expence half; the other, that a border of wood makes the double fence necessary; and we have seen that this amply repays the planter, at the end of 30 years. It is evident then, that the high wolds may, by inclosure, by the help of the sheep-fold, by cultivation, and a proper choice of grasses, be advanced 8 *s. per acre*, and that the capital employed will pay an interest of eight *per cent.* This has been done. The 300 acres were as bad as any in the lordship, and the same improvement may equally extend to 5000 acres. But as so large a supply of grass and hay serves only for the support of cattle, and as a country should be peopled as well as stocked, I shall make a calculation of what corn this land may produce, what number of inhabitants it may support, and what herds and flocks it may maintain. For this purpose, farm houses must be built, and a proper quantity of tillage, meadow, and pasture allotted to each farm: We have seen what hay the land will produce, and I find by experience, that the same land in corn yields, after being well manured, three quarters of barley, and two quarters of wheat *per acre*.
My

My turnips are worth at a medium, 30 *s.* *per* acre, and the clover 20 *s.* Three acres will keep a cow or 10 sheep, and four acres a horse. From these data, I shall suppose, a farm of 35 *l.* a year, consisting of a man, his wife, a plough boy, and four children; his stock as follows : *viz.*

		Acres.
40 Sheep	} require {	12
3 Cows		9
2 Oxen		5
2 Horses		8
In tillage		36
		70

Course of husbandry, 1 turnips, 2 barley, 3 clover, 4 wheat, *viz.*

Acres		<i>l.</i>	<i>s.</i>	<i>d.</i>
9 Turnips	- - -	13	10	0
9 Barley 3 qrs. <i>per</i> acre, at 16 <i>s.</i> <i>per</i> qr.	- - -	21	12	0
9 Clover	- - -	9	0	0
9 Wheat 2 qrs. <i>per</i> acre, at 2 <i>l.</i> <i>per</i> qr.	- - -	36	0	0
Profit on 3 cows	- - -	15	0	0
Ten lambs, and the wool of 40 sheep	- - -	6	10	0
Hire of the team at times the farmer can spare it	- - -	12	10	0
		114	2	0

It may reasonably be supposed, that every farmer will keep a pig or two, and some poultry, yet I have not charged any profit on those articles, and I have made my calculation from a small farm, which is not the most

most advantageous, because there is not constant work for the cattle; and though we have set down 50 days hire of the team, at 5*s.* *per* day, still the want of full employment must be attended with loss: Nevertheless, though I estimate the rent of the land pretty high, and the produce lower than I have actually found it to be, we see that the land yields more than three rents, and that it supports seven persons; and on a supposition that each of these consumes a quarter of corn in a year, *viz.* 4 bush. of wheat, and 4 bush. of barley, there remains 38 quarters to carry to market, besides other advantages of the stock, as pigs, calves, poultry, eggs, &c. Now if 70 acres maintain seven persons, are advanced to 35*l.* a year, and send 38 quarters of corn to market, besides what the family consumes, with live stock in proportion; 5000 acres will support 500 inhabitants, and will let for 2500*l.* a year, and will furnish the markets with above 2700 quarters of corn, if the larger portion of land be laid out in the same manner as we have supposed the smaller to be. A farm house, with suitable out-buildings, will cost in this neighbourhood 150*l.* proper for the above farm, and the inclosure 150*l.* As to the proportion of tillage to grass, and the mode of cultivation, it is merely ideal: There is infinite variety in the succession of crops, and a discreet husband-

husbandman will according to circumstances adopt what he thinks best.

We will suppose the uncultivated parts of the wolds to consist of a square of 15 miles diameter, containing 144,000 acres: We will allow one person for every ten acres, then the people are 14,000, and the produce after the rate abovementioned; the rent 72,000 *l.* This increase of corn and provisions of all sorts, together with the multiplying of those most useful subjects the cultivators of the earth, would be an amazing addition to the strength and riches of this kingdom; and yet this tract of country is but small in comparison of the many-uncultivated wastes throughout *England*.

The above calculations may appear in a clearer point of view, if stated in the following manner, *viz.*

5000 acres at present, produce 625 quarters of corn, value 450 <i>l.</i> inhabitants 100, rent	£. 250
5000 acres improved, will produce 3210 qrs. of ditto, value 4107 <i>l.</i> inhabitants 500, rent	2500
The buildings requisite for a farm of 35 <i>l.</i> a year, will cost	- - - 130
Inclosing 70 acres in the manner proposed, <i>viz.</i> with double walls,	- - - 300
The expences being about 6 <i>l.</i> per acre, to improve 5000 acres, will cost	- - - 30,000
The interest of 30,000 <i>l.</i> at 4 per cent. is 1200 <i>l.</i> a year. But the advance of rent being 2000 <i>l.</i> a year, yields near 7 per cent. interest.	

But though the improvement of 5000 acres might amount to so large a sum as above,

above, when the farms are so small as 35*l* a year, and where the inclosure is double fenced with walls for plantations; yet if we dispose the farms on a larger scale, and as they ought to be laid out, *viz.* 200 acres to each, instead of 70 acres, the expence will be greatly reduced, as appears by the following estimate, *viz.*

Farm house, out-buildings, and two cottage			
houses, cost	—	—	— <i>£.</i> 200
Inclosing 200 acres, with dry stone walls,			
double fenced, for planting,	—	—	400
			600

In this manner 5000 acres improved at 3*l.* per
acre, will cost — — — *£.* 15,000

will contain 25 farm houses, and 50 cottages. Reckoning in each family six persons, the whole number of souls will be 450.

Plate I. fig. 1. is a scheme for building eight cottages, and allotting land to each.

In my first calculation, where the crops run in this rotation, *viz.* Turnips, barley, clover, wheat; the produce of each acre in tillage is 2*l.* 4*s.* 6*d.* yearly: But if we suppose 100 acres, or half of the above-mentioned farm to be in tillage, and only 25 to produce always wheat in constant succession, (as I have proved elsewhere may easily be done) and that the drilled and horsehoed crops produce at a medium 10 bushels *per* acre, which is below the mark,
the

the crop, at 5*s.* *per* bushel, is worth 2*l.* 10*s.* and is not only a more valuable one, but obtained at less expence, and as it requires no manure, there will be a larger quantity of dung to lay upon the remaining tillage and grafs land, which will on that account be proportionably improved, maintain a greater number of inhabitants, a larger stock of cattle, and a more abundant supply of every production of the earth.

Such is the relation this most excellent cultivator gives of the wold husbandry, and the methods by which it may be improved: To add any thing would be impertinent; but I must be allowed in one word to remark, that Sir *Digby* has treated the subject with a philosophical precision: —That he writes with the sense and spirit of a man of genius;—is clear in all his ideas, practical in his propositions, and equally candid and judicious in his deductions. He has examined the wolds, downs, and heaths of the kingdom with the eye of a most experienced cultivator, and the attention of a true patriot.

* * *

Since the first edition I have been further favoured with the following additional letter.

“ Sir,

“ Sir, *Ganton, 3d April, 1770.*

“ In compliance with the request contained in your last letter, I proceed to give you a detail of some experiments I have made on the cultivated grasses on the high wolds: But I must first premise, that in the letters I wrote to you from *Bath*, and which you have inserted in the second volume of your *Six Months Tour*, I have either expressed myself not clearly enough in one particular, or you have mistaken my meaning. For in speaking of the high wolds, its rental, produce and improvement, I meant to confine myself merely to the uninclosed parts which lie distant from the villages, and are consequently poorly cultivated; such parts I do think cannot be estimated, nor do they let for much more than 1*s.* *per* acre. But in two or three parts of your work, particularly in vol. 4th, pages 56, and 74, and 91, &c. you insert, *that* as the average rental of an extensive country, 20 miles by 15, and state the produce accordingly; which would give a stranger a very wrong idea, both of the value of land in that country, and of its productions *. The truth is, that the inclosures

* I am particularly obliged to Sir *Digby* for this correction, and have accordingly made use of it, in all the places mentioned: The calculating the *uncultivated* parts at a square of 15 miles was the occasion of my mistake.

in this country let very high, perhaps for more than their value, on account of their scarcity, and the vales and uninclosed fields, situated near the villages, are of much greater value than the other parts, both from their kindly nature, and from situation. Now these must be taken into the account, in order to form an average of rent and produce; and to enable you to do this, and correct those passages in your next edition, I will here give you the medium produce in grain of the best fields throughout my wolds estate, and the average likewise of acreable rent, including good and bad land, inclosed and uninclosed: And as my property hereabouts is pretty extensive, you may from thence form a tolerably accurate idea of the rent and produce of the *East Riding* wolds.

The field land and inclosures near my house, and around the villages on my estate, consisting of many hundred acres, is part sand, and the rest a marly loam; the former is excellent for turnips and barley, and the latter is not only suitable to those, but admits of tolerable good crops of clover and wheat. Our inclosed fields produce at a medium, four quarters two bushels of barley *per* acre, a tun and a half of clover hay, turnips worth two guineas, and three quarters of wheat. The uninclosed fields, but where the soil and situation is nearly

the same as the preceding, three quarters of barley, four quarters oats, pease two quarters, and very little wheat grown. The difference of produce here is evidently owing to the want of inclosure, and of clover and turnips. Our grass inclosures let in general at 15*s.* and some at 20*s.*: And upon examining the rental of my estate, I find that the high wolds land lets at 1*s.* *per* acre, best low field land at 10*s.* and inclosures at 16*s.* and the medium rental of the whole at 3*s.* 6*d.* I should imagine *that* to be the medium rent of this large tract of country; but if this be nearly the true state at present, it certainly will be very different a few years hence, as inclosure is making large and rapid strides amongst us, and introducing in its train varieties of the artificial grasses, turnips, &c. &c.: And it is highly probable the rents will soon be doubled.

In 1762, I sowed a flat of 16 acres with sainfoin along with barley, in the month of *April*; the land was on the top of the wolds, a plain inclining to the south, the soil a poor sandy loam, about 14 inches deep (a bed of lime-stone beneath) it had borne a good crop of oats the preceding year, and was well prepared for the barley and sainfoin by several ploughings, and the folding of 500 sheep: The sainfoin was drilled after the barley, it was one foot asunder, and took seven pecks of seed *per* acre; the

season was kindly, the corn proved good, and after it was removed, the sainfoin appeared distinctly and vigorously in the rows, which were well stocked with plants; the appearance was altogether promising. Notwithstanding which, in the following winter many plants dwindled away, and the first crop was but a poor one, *viz.* about half a tun to an acre; the succeeding ones were not much better, and the natural grass has now got such an ascendancy, that it has begun to be ploughed up in order to be pulverized by a crop or two of corn, ameliorated by a crop of turnips, and afterwards laid down with some other grass better adapted to the nature of the soil. The indifferent success here I take to be owing to the sourness in the land; which moreover greatly encouraged the growth of the natural grass, which choaked the sainfoin at an early period, when it had not acquired vigour to contend with its enemy: Some of the clovers are intended to be sown next, and in such land I apprehend, grass seeds should be sown very thick.

In the beginning of *May* 1764, about six acres were drilled with buckwheat and sainfoin, and with barley and sainfoin in alternate rows, a foot distant; the quantity of sainfoin seed was two bushels to an acre; the land was in situation nearly the same as the last experiment, but a shallower soil with
a rock

a rock beneath; the land was in good tilth, and manured with pigeons dung, 32 bushels to the acre. The crops both of buck wheat and barley were moderate, but the succeeding crop of grafs was at the rate of a tun to an acre, and has continued ever since to yield nearly the same produce. The part drilled with sainfoin along with the buckwheat, was apparently superior to the rest the first year, but since that, there is scarce any difference. I can no otherwise account for the superiority of the last over the sainfoin of the first experiment, but from the difference of soil, which in the last instance was much thinner, and not so productive of twitch grafs and weeds.

In the same month five acres of land adjoining, were sown by hand with white and red clover along with barley, and two acres more also sown with trefoil and barley: of the clovers a stone to an acre was the quantity used; the barley was drilled, and produced near three quarters to an acre; the soil was like that before mentioned, and was tilled in like manner, but being but slightly folded over, the land wanted heart to produce a vigorous growth; the clovers were very thick on the ground, but so low as to be scarcely worth mowing, though indeed a dry summer might partly be the cause of this disappointment. This land has been since ploughed up, and

Rocque's burnet sown instead of the clovers; it has produced a good crop or two, but seems to be going off, and this is a new objection to burnet, which I was not aware of, but which I have experienced two or three times; it comes up very well, and produces a good crop or two (I generally sow 15 pound to an acre) but afterwards goes off much like red clover.

In *July* and *August* 1764, 12 acres were drilled with new sainfoin seed just threshed, and one acre adjoining sown by hand, in order to compare the difference; the first a bushel and a half to an acre, the last four bushels; the land a high and distant part of the wolds, exhausted by repeated crops without manuring. I had lately inclosed a large field of 70 acres, of which this made a part, by four or five ploughings had brought the land into excellent tilth, and by the addition of the sheepfold, I judged that the land would bring tolerable turnips, the seed of which was sown in *June*, in a fine season; but the crop totally failed, owing partly to the fly, and partly to the want of heart in the land, whereby the seed leaves could not make a vigorous shoot; however, being unwilling to lose the benefit of so many ploughings, I immediately sowed the sainfoin seed as above, which came up in a fortnight's time very well, and acquired so much strength before winter, as in a great measure

measure to withstand the frosts; part of the plants however suffered, and the succeeding crops have felt the loss, for the medium produce ever since has been three quarters of a tun; the drilled and broadcast parts seem equal. It is here to be observed, that though all the seed was in the ground so early as *August*, yet did not that circumstance totally secure the plants against the inclemency of winter; in such very high and cold places, it is certainly safest to sow in *April* and *May*, and I do not find, that a crop of corn sown with the grass seed is of any material prejudice to it. Six acres of the aforesaid turnip land were likewise sowed with lucerne, 12 pound to the acre; the seed was good, came up very thick, but though the soil was in perfect order and absolutely free from weeds, though I have since applied the sheepfold and a little lime, *viz.* a chaldron to an acre, the plants which still continue are weak and half starved, the crop scarce ever worth mowing. I am convinced from full experience, that neither turnips nor lucerne will ever come to perfection, unless the land be either naturally in good heart, or refreshed with a copious supply of manure.

The year following I sowed half an acre of good land worth 16 s. *per* acre with lucerne, after Mr. *Rocque's* manner, 15 pound to the acre; the land was in good order,

and sown also with oats three bushels to the acre; this was adjoining a two acre piece of lucerne, which had stood two years; the plants were in rows, *viz.* two rows a foot distant, on five foot ridges. This piece had been constantly horse and hand hoed, had borne three good crops each year; the several cuttings applied to the feeding of horses in the stable, and the half acre sown broadcast, was to show the difference: after the oats were reaped, the lucerne produced a pretty good after-grass, and the succeeding years a good crop, *viz.* a ton and a half *per* acre, besides a good aftermath. The harrowing was not omitted, but the drilled and hoed crops were certainly more vigorous, the shoots stronger and taller, and the three cuttings certainly yielded more fodder.

In *May* 1765, 17 acres on the high wolds were drilled, partly with barley and sainfoin, and partly with sainfoin alone; the rows one foot where the corn grew, and six inches where there was no corn; the former took two bushels *per* acre, the latter three; the land in good tilth, and had been folded: But as I imagined the seed was too thinly sowed (having found, by an experiment of 100 seeds on a garden bed, that not above half grew) I ordered these 17 acres to be sown broadcast with white clover and trefoil, *viz.* 18 *lb.* to an acre; the tilling which
was

was requisite for the barley completely covered the feed, and the crops of sainfoin have ever since been good, *viz.* a tun *per* acre. The clovers have been but little addition to the hay crop, but have afforded a plentiful and sweet feed for sheep, both before and after mowing.

In *May* and *June* 1765, and 1766, 13 acres of the same kind of land well pulverized and folded, were sown broadcast with rib grass and trefoil mixed, 12 *lb.* *per* acre: The seed grew well, and produced ever since a middling crop, *viz.* half a tun *per* acre.

In *April* and *May* 1766, and 1767, 12 acres were sown with burnet seed, 12 *lb.* *per* acre, on land well prepared, soil and situation the same as above, the seed sown by hand and without corn. The first year's crops were good, *viz.* a tun *per* acre; the next year better, but the third much inferior, and greatly resembling the wild uncultivated sort, with which some places in this country abound. The produce of seed is very great, it makes a coarse hay, but which however cattle will eat: Cows and horses in general eat it green very readily, some horses dislike it at first: I imagine it might be sown with advantage along with barley, mowed a year or two, and then the land ploughed up for wheat, as is practised with clover: three acres yielded 14 bushels of burnet seed in 1767, one bushel of which seed weighed 24 *lb.*

I have prepared several acres to be ploughed next *May* or *June* for the *Scotch* cabbage; the reason why I have not entered sooner upon the culture of that plant is, because turnips succeed admirably well with me. The account you give in your 4th vol. of the produce of a field of turnips on good land at *Kiplin*, being five tun *per* acre, and the consequence drawn from that one fact, I think conveys an idea of the turnip culture much too unfavourable. I have for several years weighed both my own turnips and those of the farmers in my neighbourhood; they always hoe well, but only once*. In *November* 1763, several pieces were weighed to determine some prizes I had offered, when 29 tun *per* acre were the medium produce. *October* 26th 1764, the medium produce of turnips drilled in single rows on five foot ridges, and horsehoed, was 14 tun 8 stone. At the same time, the acreable produce of those sown at random, but on land manured with 15 load of dung, whereas the former had only 10, was 32 tun 10 stone. In *November* 1765, drilled turnips, *viz.* a double row on 5 foot ridges, weighed 27 tun *per* acre. In 1766,

* I should here observe, that the crops at *Kiplin* mentioned by Sir *Digby*, were not hoed at all; a circumstance fully sufficient to account for their inferiority.

the average weight of drilled turnips was as follows; *viz.* Single rows, on five foot ridges, 19 tun *per* acre; double rows, on five foot ridges, 27 tun and an half; random sown, 20 tun. In 1767, the drilled turnips weighed 27 tun, and the broadcast 32 tun *per* acre. In 1768, the turnips drilled in single rows, weighed only 14 tun and a half *per* acre; the broadcast 26 tun. Last year the drilled produced 25 tun, the broadcast 28. The average produce of random sown turnips I find to be 28 tun, of drilled 23. The above turnip land was all well manured, *viz.* 12 load *per* acre, and lets at 12s."

These experiments are extensive, and particularly valuable; for they have led the way to the improvement of a vast tract of badly cultivated country; which in the hands of so spirited and attentive a man will have the noblest consequences. They offer great encouragement to all landlords of such poor soils, to induce them to undertake similar courses of trials: Nor can I omit returning my thanks to the author in the name of the publick, for an attention that proves him to be so good a friend to it.

At *Brumpton*, the soil is very good, it is a rich loam upon a limestone, lets at about 14s. an acre; farms in general from 50l. to 100l. Their course is,

1. Fallow

- | | |
|-----------|-------------|
| 1. Fallow | 4. Clover |
| 2. Wheat | 5. Wheat |
| 3. Barley | 6. Turnips, |

which is very bad. The maxim of never suffering two exhausting crops to come together is an excellent one; it ought never to be broke through: Wheat succeeding clover which followed barley and wheat, cannot possibly be good, but must fill the land with weeds.

They stir five or six times for wheat, sow two bushels, and reap two quarters and an half. For barley they plough twice, sow two bushels, and reckon the mean produce at 32 bushels. For oats they give but one earthen, sow four bushels, and gain in return not above three quarters. They stir three or four times for turnips, hoe them once; value them at about a guinea *per* acre, and use them for sheep. They sow some rape, on fresh land. Clover they sow with barley, oats and wheat, and mow it for hay; of which they get about $2\frac{1}{2}$ tons *per* acre.

About *Yeddingham-bridge*, both soil and management changes greatly. The former is in general sandy; and lets at about 6 *s.* 6 *d.* an acre; the meadows, however, are as high as 30 *s.* The neighbouring wolds are not measured with any accuracy, but large tracts are supposed to run at 1 *s.* an acre. Farms from 10 *l.* in the inclosures, to 300 *l.* on the wolds. Their course,

1. Fallow

1. Fallow
2. Wheat
3. Barley

4. Clover, the 2d
crop ploughed
in for,
5. Wheat

Sometimes,

1. Fallow
2. Wheat

3. Beans.

They plough four times for wheat, sow 10 pecks, and reap at an average three quarters and an half. For barley, they plough as often as for wheat, sow two bushels, and gain five quarters. For oats, they plough but once (on the wolds twice), sow 10 pecks, and gain in return five quarters. They give but one earth for beans, sow four bushels broad-cast, never hoe, and reckon the mean crop three quarters; use them for hogs and horses. For pease, they plough once, sow 10 pecks, and get 15 bushels. They plough four times for rye, sow six or seven pecks, and gain in return about three quarters and an half. For turnips, they stir four times, hoe them sometimes once or twice, and value them from a guinea to 25s. use them for sheep and beasts: Rape they sometimes sow on a fallow, in which case they plough five times for it; but oftener on fresh land pared and burnt; they never feed it; the crop of seed so uncertain that I could get no average. Wheat they sow after it, and get excellent crops. Clover they sow with barley, mow it for hay, and get two
tons

tons and an half at first cutting. If they hire it, the common price is 30*s.* *per* acre, for the summer. They sow wheat after it.

As to manuring; paring and burning, they reckon bad husbandry; the price is 12*s.* *per* acre.—Lime they use; lay three chaldrons *per* acre.

They apply their grafs chiefly to dairying. An acre keeps a cow through the summer.

The general oeconomy of their farms will be seen from the following sketches.

200 Acres in all	15 Cows
70 Arable	10 Young cattle
130 Grafs	80 Sheep
£. 100 Rent	3 Servants
8 Horses	3 Labourers.
8 Oxen	

Another,

300 Acres in all	22 Cows
110 Arable	8 Beasts
190 Grafs	13 Young cattle
£. 112 Rent	140 Sheep
12 Horses	4 Servants
10 Oxen	3 Labourers.

Another,

55 Acres in all	3 Horses
20 Grafs	2 Oxen
35 Arable	2 Cows
£. 23 Rent	1 Servant

LABOUR.

LABOUR.

In harvest, 10 s. 6d. a week and board.

In hay-time, 7s. 6d. and ditto.

In winter, 5s. and ditto.

Mowing grass, 2 s.

Threshing wheat, 3d. a bushel.

From hence to *Castle Howard* by *Malton* the soil is various; lets from 6s. to 20s. an acre; farms from 20 l. to 80 l. in general *.

* *Castle Howard*, the seat of the Earl of *Carlisle*, built by *Vanbrugh*, is much visited by travellers on account of the great collection of antique busts, statues and marbles it contains; and also for the beauty of the woods that surround it almost on every side. These are truly magnificent; they are extensive, very well designed, and as they in general hang on the sides of the hills, have a noble effect from whatever point they are viewed. The house loses the grandeur as well as the beauty that ought to attend so large and expensive a building, in the want of a unity of its parts, which have as little beauty in themselves as connection with each other. The front, however, of the new wing will be light and elegant; an advantage which serves for little else but rendering the rest of the building the more unpleasing.

The hall is 33 feet square by 60 high, terminating in a dome at top, it is ornamented with pillars of stone; but these are so large, and the height of the room so out of all proportion, that the area has quite a diminutive appearance. The walls are painted by *Pellegrino*, the history of
of

From *Castle-Howard* I took the road to the Rev. Mr. *Comber's* * at *East-Newton*; from whence I had the opportunity of viewing the agriculture of the adjacent country, which I was particularly enabled to do by that gentleman's not only accompanying

of *Phaeton*. Here are several antique busts and statues.

Marcus Aurelius.

Bacchus.

Ceres.

Epaphrodites, *Nero's* secretary.

Hygæa.

Adrian. Fine.

Bacchus. The attitude fine.

Paris.

Augustus.

Ceres. Fine.

Lucius Verus.

Vitellius.

Diodumenus, successor of *Caracalla*. Drapery admirable.

Marc Antony.

Scipio Africanus.

Tyberinus.

Sabina in the character of *Plenty*. The attitude and drapery fine.

In

* This gentleman, who is descended from the Lord Deputy *Wandesford*, one of the earliest and greatest improvers in *Ireland*, is well known by several literary performances, that have been very well received, and by many very sensible letters on the subject of Husbandry in the *Museum Rusticum*.

me to some places, but sending for several of his tenants, that I might make the requisite enquiries of them.

About *East-Newton* and *Laystrove*, the soil is various; some good loams, gravelly clay, cold, wet, springy clay, and a grey-stone earth on a lime-stone. The average rent is about 12*s.* and farms from 75*l.* to 225*l.* The common course;

In the saloon, 34 by 24, are busts.

Drusus.

Jupiter Serapis. Fine.

Adrian.

M. Aurelius. Fine.

Cupid. Admirably fine; the attitude and expression great; but the modern parts by no means equal to the antique.

Apollo. The head modern.

Two groupes; lions and buffaloes.

Didius Julian.

The paintings are,

Ricci. Four pieces; the arches good.

Titian. Pope Gregory. Very fine.

Mars and *Venus.* The design in *Venus's* figure good.

Holy family.

Albert Durer. *Vulcan.*

Corn. Schout. An *Automalia.*

Rembrandt. *Bohemian shepherdes.*

A head.

On the left of the saloon is the following suite.

The dining room 28 by 21. Elegantly furnished, with pictures, busts, slabs, &c. The

- | | |
|-----------|-----------|
| 1. Fallow | 3. Oats |
| 2. Wheat | 4. Pease. |

But Mr. *Legat* of *Laystrove* has changed this: His method is,

- | | |
|----------------------|-----------------|
| 1. Fallow | the second eat. |
| 2. Wheat | 5. Wheat |
| 3. Barley | 6. Oats |
| 4. Clover, the first | 7. Turnips |
| crop mown, and | |

Mr. *Legat* has tried a spring wheat, which succeeded greatly; he gained 13 bushels

chimney-piece is very handsome, the cornice of *Siena* and white marble, in the middle grapes of polished white; it is supported by fluted pillars of *Siena*. The slabs of *Sicilian* jasper, and an urn of the finest green granate.

Busts, *Marcus Aurelius*.

A Bacchanal.

The pictures are,

Zuccarelli. Landscape, a waterfall. The trees, figures, and water, excellently done.

Ditto. Cattle on a bridge. The groupe, the water, and the cattle, very fine.

P. Panini. Ruins. Fine.

Tintoretto. *Cupid and Psyche*. Fine expression.

Spagnolett. The Prodigal Son. Amazing expression.

Paul Veronese. *Christ at Emaus*.

Upon the chimney-piece, three bronzes.

Brutus. — *Cassius*. — *Laocoon*.

The drawing room, 21 square: The slab verd antique, and *Roman* pavement antique Mosaic: And an urn of porphyry.

The

from one sown on a rood and an half. But the circumstance of wheat following clover, which succeeds two crops of corn, is very bad management: Turnips, or some other ameliorating crop, ought certainly to come in between the wheat and barley.

They plough from three to five times for wheat, sow 3 bushels, and reap at a medium 3 quarters *per* acre. For barley they stir the same as for wheat; they sow

The pictures are,

P. Pannini. Two pieces of architecture; very fine.

Canaletti. Nineteen views of *Venice*, &c. A capital collection, which displays the beautiful glow and brilliancy of this master's colouring in a very high manner.

Ricci. A landscape; fine.
A waterfall.

Baptist. Fruit and flowers; very fine.

Zuccarelli. Two landscapes; very pleasing; the figures, attitudes, &c. fine.

Albert Durer. *Adam and Eve.*

Abraham and Isaac. Exquisite finishing in that stile of painting.

Correggio. A boy with a dwarf.

St. Catherine and St. Cecilia; unknown. Upon the chimney, bronzes.

St. Sebastian. Very fine.

Venus. — *Apis.* — *Antinous.* Fine.

In the bed-chamber, 21 square, are slabs of antique Mosaic; bronzes.

4 bushels, and reckon the average crop 3 quarters and an half. They give one or two earths for oats, sow 4 bushels and an half; the crop 4 quarters. For beans they plough but once, sow 4 bushels broad-cast, never hoe them, and reap at an average 2 quarters: They use them for hogs and horses, and grind them for their cows in the spring, when they calve. For pease they likewise plough but once, sow but one

Paris. — Laocoon. — Apis.

Medusa; fine: And a *Vespasian*. A sea-piece and a landscape by *Ricci*.

In the dressing-room.

A very fine slab of antique oriental jasper in a border of flowered alabaster; and another of alabaster of *Volterra*. Two landscapes by *Ricci*; indifferent.

In the closet.

Two most curious cabinets formed of precious stones: And a slab of antique Mosaic.

Canaletti. Four views of *Venice*.

Ricci. Two landscapes.

Vandervelt. Sea-piece.

Corn. Johnson. Portrait of Lord *William Howard*.

• *Ditto*, of his Wife. Excellent.

In the antique gallery are,

Many slabs of all the most rare and curious antique marbles: Some inlaid with numerous kinds of marbles and precious stones. Urns, vases, &c. &c.

Busts.

Cato. — *M. Junius Brutus*. — *Caius Caesar*. — *Geta*. — *Virgil*. — *Homer*. — *Hercules*.

bushel, the sort small, never hoe them; the crop about 16 bushels. For rye, after barley, they plough only once, but on a fallow three or four times; sow 3 bushels, which is a prodigious quantity, and reckon 25 the mean crop. The fallow for turnips, consists of four or five earths, but when sown after paring and burning, the land is ploughed but once. They sometimes hoe them twice, value them at 40s. an acre, and use them

A basso relievo of Victory. The attitude and drapery excellent.

Cupid on a goat. A duck, with a bell about its neck.

A satyr holding a goat; fine.

A crucifix in ivory, very finely worked.

The pictures are,

Rubens. Three heads.

Raphael. A *Cartoon*, in blue and white. The attitudes and expression finely varied.

Wovermans. Horsemen.

Stone. (After *Raphael*) Holy Family.

Ph. Laura. *Venus* and *Europa*. Middling.

Brugble. Two landscapes.

Nief. Four of architecture.

Old Frank. Hand-writing on the wall.

Bassan. Two pieces. A rock with light behind it; fine: And an old woman's head; ditto.

Vanderwelt. Other sea-pieces.

Vanlynt. *Daphne* and *Apollo*. Under it two landscapes, fine. Master unknown.

Bassan. Dead *Christ*.

Polemburgh. Landscape. Good.

for sheep, beasts, cows, and calves from half a year to a year old.

For rape they plough four or five times; do not feed it; a middling crop of seed half a last: They sow wheat after it. It is never cultivated for feed; nor ever fed, unless the crop appears likely to be a bad one, and not worth standing for seed: Nor in any case thought in that respect comparable to turnips. Clover they sow with barley or

Ricci. A waterfall; the tree well done.

A Galatea in antique Mosaic.

Mumper. Rocks.

Teniers. Two pieces; good.

Heemskirk. A groupe of figures.

Bugden. Grapes, flowers, &c.

Rembrandt. A grotto.

Mumper. *Cupid* and *Psyche*. Rocks and falls of water.

Griffier. Two pieces, skating; good. A landscape. Trees, boats, and figures; excellent.

Artois. Landscape; fine.

Bugden. Fruit and flowers; good. The butterfly, fine.

Bassan. *David* and *Goliath*.

Companion to ditto.

Griffier. Two sea-pieces.

To the right of the saloon are the following rooms.

The drawing-room, 28 by 24. Over the chimney,

Carlo Marrat. Portrait of Cardinal *Howard*; exceedingly fine.

Two

oats, mow it twice for hay, and get 4 ton of hay at the two mowings: They find it of so ameliorating a nature, that they always sow wheat after it, even on land that, by any other management, will yield only rye.

The manure they make at home, consists only in the dung of their cattle and the offal straw; they never cut the stubble and bring in for that purpose, but even argue against

Two busts;
Justiniana, and
Severus.

Two very curious slabs of flowered alabaster;
one of red porphyry; two pillars of
green porphyry.

Upon the chimney the following antique
bronzes.

Apis.

An owl.

The head of a *Roman* standard.

The tapestry is from the designs of *Rubens*,
and fine.

In another drawing-room, 30 by 24, are,
Busts.

Julia, elegant.

Poppæa.

Agrippina; drapery fine.

Bronzes.

Hercules and *Anteus*.

Centaur and *Dejanira*; and

A *Pallas* of oriental alabaster.

Geta.

it, very much mistaken, I apprehend: They assert it to be more beneficial turned into the ground, than converted into manure in the farm-yard; but if the slight effect of very thin coverings of dung be considered, there will appear great reason for supposing the fermenting quality of manure the principal use. Keeping sheep over a whole farm without folding, will give no other improvement than what results from their

Nero.

One unknown.

The pictures are,

Ricci. A shipwreck.

Landscape; a snow piece; good.

Lely. Queen *Catherine.*

Here likewise is a very curious cabinet of precious stones; two slabs of verd antique; and one of antique black and white.

The state bed-chamber, 28 by 24. The chimney-piece in this room is very elegant; the cornice of white marble: In the center of the frieze, pigeons in white marble polished. The supporters *Corinthian* pillars; the shafts *Siena* marble; the capitals and bases of white: Upon it stands——*Jupiter Serapis*. In the ornaments above, the marriage of the Sea by *Canaletti*; in which the water is by no means equal to the representation of it in many of his works. The room is hung with excellent *Brussels* tapestry, done after the designs of *Teniers*.

Dressing-room, 30 by 24. Here are two very fine slabs of blood jasper; another exceedingly elegant;

close feeding; but in the fold, when they are collected, and such a quantity of manure left as to raise a fermentation, the benefit is striking. Another circumstance is the difficulty of ploughing in stubble. It is a common thing for the farmers in *Suffolk* and *Essex* to chop and rake the wheat stubbles when they do not want the haulm, and have not cattle to make it into dung, merely because the land cannot be ploughed

elegant; an oval of agate surrounded by modern Mosaic. Upon the chimney-piece, which is an elegant one of white marble, are the following:

Bronzes.

Venus.

Mercury.

A horse.

The cabinet of *Amboyna* wood is very elegant.

Two landscapes, that are pretty, and two pieces by *Canaletti*.

In the rooms of the attic story are the following pictures, &c.

In the crimson figured room;

Titian. Holy Family. The colours gone, but the attitude fine.

Vandyke. (Copied from him) *Charles I.* and Queen.

Lely. *Joceline Piercy.*

In the green damask-room;

In the Billiard-room. Busts:

Faustina. Fine.

Galba, in porphyry. Excellent.

Lepidus. His countenance expressive of the mean soul, the dupe of his colleagues.

Vitellius.

well unless it is taken away. It drives up before the plough in bunches, lifts it out of the ground, and makes it necessary for the man to clean his plough three or four times every bout in the middle of the field: Add to this, not half the stubble is turned in to rot at all, but left sticking out in tufts and bunches over the whole field; for it is not like turning in clover and buck-wheat in full sap, which of course goes under regularly; on the contrary, it is so dead and

Vitellius. Fine.

The Younger *Aurelius*.

Tully. Fine.

Marcellus; antique Parian.

Here are tables of the yellow antique; and two vast slabs of *Egyptian* granate. Upon the walls of the room is painted the history of the *Trojan* war, by *Pelegriño*.

In the second yellow bed-chamber;

John Vanbarrp. Rape of *Helen*. A strange group.

Leonardo da Vinci. *St. Catherine*; good.

Dubame. *Memento mori*.

St. Sebastian; fine.

In other parts of the house are:

In the late Lord's dressing-room,

Rosa de Tivoli. Two cattle pieces; very fine.

Reynolds. Portrait of the present Lord. The dog's head very fine.

In the bed-chamber;

Zuccarelli. Two landscapes, brilliant, The groups and attitudes fine.

Old

brittle, that nine-tenths of it breaks with touching, which consequently occasions the obstructions the plough meets with.

They pare and burn some of their lands :
The expence *per* acre is ;

			<i>l.</i>	<i>s.</i>	<i>d.</i>
Paring,	-	-	0	11	0
Burning,	-	-	0	2	6
Spreading,	-	-	0	0	6
			£.	0	14 0

Lime they use in large quantities ; they lay 3, 4, and 5 chaldrons on an acre ; have it for the burning. The expences amount to about 7*s.* *per* chaldron ;

Old Frank. Four scripture-pieces. The offering of the wise men ; exceeding fine finishing.

David and *Goliath*, very fine.

David viewing *Bathsheba*, exquisite.

Guido. *Lucretia*, very fine.

Lely. *Joceline*, last Earl of *Northumberland*.

Dog's head, exquisite,

James II.

In the dressing-room ;

Canaletti. Eleven views of *Venice*, &c. very fine, glowing and brilliant.

P. Paniai. Three of architecture, fine.

The chimney-piece is of modern and antique mosaic : The slabs are of antique porphyry ; and the cabinet very beautiful, of the finest pebbles, &c. &c.

				<i>l.</i>	<i>s.</i>	<i>d.</i>
Coals	-	-	-	0	6	2
Leading	-	-	-	0	8	0
Getting and burning	-	-	-	0	6	0
Wood	-	-	-	0	2	0

1 2 2
the 3d is 7 s.

One chaldron of coals they reckon burns three of lime.

In other rooms ;

Rembrandt. Venetian nobleman, very fine.

Rubens. A head. Also *Thomas Earl of Arundel.*

Very fine expression.

An *Ecce Homo*, exceeding fine.

Vandyke. Tenth Earl of *Northumberland.*

The mausoleum in the park is a circular building finishing in a dome, surrounded by a colonnade of *Tuscan* pillars. Over the vault is an elegant circular dome-room called a chapel, 30 feet diameter by 69 high. Eight *Corinthian* pillars support the cornice over which the dome rises, mosaic'd in squares, with a rose in each. The ornaments in carving of the whole room light and pleasing. The floor is in different compartments, inlaid with marble, and *a la Grec*'d with brass. There is a very fine table of antique mosaic.

The *Ionic* temple in another part of the park has four porticos. It is a handsome room, fitted up chiefly with marble. The cornices of the door-cases are supported by *Ionic* pillars of black and

Good grafs land lets at 20s. an acre; they apply it chiefly to dairying. Two acres they think neceffary to fummer a cow, or four fheep to the acre. It is not a common practice to manure their grafs lands; but Mr. *Legat* has done it with lime, earth, and dung.

The profit of a cow they reckon at 4*l.* 5*s.* The quantity of milk *per cow per diem*, in the beft feafon, is about four *Wincheſter*

and gold marble; and in the corners of the room are pilafters of the fame: In niches over the doors are buſts of

Vefpaſian, — Fauſtina, — Trajan, and Sabina.

The room finiſhes in a dome, which is ornamented in white and gold; the floor in compartments of different marbles, antiques, &c. very elegant; but the windows are trifling and mean.

Befides theſe, there are ſeveral other ornamental buildings about the park, &c. but all in ſo heavy and clumsy a ſtile, as to be perfectly diſguſting. Even the mauſoleum is far enough from being free from theſe objections: It is not very light in itſelf, but the ſteps up to the chapel, and the walls that ſurround it in the fortification ſtile, are deteſtable. The *Ionic* temple is a cluster of porticoes; the bridge is heavy, and even ugly; and the reſt of them, except a ſmall dome temple with a ſtatue of *Venus* in it, all terminate in triangular pyramidal forms, much in the ſtile of being hewn out of a real rock. I ſhould not, however, forget to remark, that the inn, although deficient enough in beauty, is an
excellent

gallons. Ten cows do not keep above three hogs.

In winter they feed them, when dry, with hay; and give them corn a fortnight before calving. Calves that are to be reared, they let suck about a week, but if for the butcher, 4 or 5 weeks; sell generally at about 15 s. each. They reckon that a dairy-maid may, without help, manage 10 cows; but it is very hard work; generally a maid and a girl to 15.

Two ton and a half of hay necessary to winter a cow. The joisting price in winter, 35 s. In summer, 1 l. 7 s. 6 d.

Their flocks of sheep rise from 25 to 300. The profit they reckon from 10 s. 6 d. to 12 s. *per* head. Joisting in winter, 2 s. 6 d. would give 9 d. a week through the month of *April*. The weight of wool *per* sheep from 3 to 8 lb.

In respect of tillage, they reckon eight horses necessary for the cultivation of 100 acres of arable land; use two, three, and four in a plough, and do an acre, or an acre and an half *per* day. The price of ploughing 3 s. 6 d. and 4 s.—They do not give their horses any oats, but when they work; a

excellent one; the rooms and all the offices large and convenient. It would be a very agreeable circumstance, if travellers found the like in the neighbourhood of all great houses.

quarter

quarter and a bushel of beans last a horse all winter, spring sowing inclusive. They reckon the year's keeping and shoeing amount to about 4 *l.* 14 *s.* 6 *d.* The joist in summer is about 1 *l.* 15 *s.* in winter the same. The food of their oxen in winter is straw, but in the spring when they work, they have hay at morning and night.

Upon comparing horses and oxen, they find horses best for quickness, but oxen the most steady; the latter are, however, by much the most profitable. The proportion of pace, is the horses ploughing their acre in six hours, and the oxen in eight. Chopt straw, by way of chaff, is quite unknown in this country.

They reckon that to take a farm of 100 *l.* a year, half arable and half grass, requires 600 *l.*; all arable, 500 *l.* Which sum they divide thus :

Rent,	-	-	£. 100
12 Horses,	-	-	100
40 Sheep,	-	-	28
Harness,	-	-	12
2 Waggon,	-	-	24
2 Carts,	-	-	12
Ploughs and harness,	-	-	5
Sundry small articles,	-	-	10
Housekeeping, cloaths, &c. &c.	-	-	50
Seed,	-	-	80
Servants and labourers,	-	-	80
			£. 501
			Land

Land in this country sells at from thirty to forty years purchase; tythes are often taken in kind, from 5 s. to 8 s. for winter corn; from 3 s. 6 d. to 5 s. for spring corn; and from 1 s. 6 d. to 2 s. hay. They are justly reckoned a very great burthen upon agriculture, and a most invidious tax upon all improvements; for it is become a common custom for rectors to take in kind only of those tenants who farm the best; and never to compound for more than one year at a time. This is a sufficient bar to all improvements.—Poor rates about 2 d. in the pound real rents; this is extremely low, considering that the poor women and children have no manufacture for employing them; all, however, drink tea.

The general œconomy of their farms will appear from the following tables.

150 Acres in all	19 Cows
120 Grass	4 Fattening beasts
30 Arable	20 Young cattle
£. 95 Rent	140 Sheep
3 Horses	3 Servants
6 Oxen	1 Labourer

Another :

160 Acres in all	24 Cows
130 Grass	10 Beasts
30 Arable	10 Young cattle
£. 95 Rent	20 Sheep
5 Horses	2 Servants

Another :

Another :

140 Acres in all	20 Cows
100 Grafs	9 Young cattle
40 Arable	25 Sheep
£.75 Rent	2 Servants
3 Horses	

The fourth :

450 Acres in all	12 Oxen
390 Grafs	25 Cows
60 Arable	30 Young cattle
£.225 Rent	250 Sheep
8 Horses	3 Servants
6 Brood mares and foals	1 Labourer

The fifth :

300 Acres in all	16 Cows
255 Grafs	25 Young cattle
45 Arable	300 Sheep
£.125 Rent	2 Servants
12 Horses	1 Labourer
6 Oxen	

Another :

200 Acres in all	20 Cows
160 Grafs	20 Young cattle
40 Arable	300 Sheep
£.100 Rent	2 Servants
8 Horses	1 Labourer
6 Oxen	

A seventh:

300 Acres in all	6 Cows
260 Grass	10 Young cattle
40 Arable	80 Sheep
£.95 Rent	2 Servants
12 Horses	1 Labourer.
2 Oxen	

LABOUR.

In harvest, 7*s.* a week, and meat and drink;
equal in the whole to 14*s.*

In hay-time, the same.

In winter, 4*s.* and board.

Reaping wheat, 5*s.*

Mowing corn, 1*s.* to 1*s.* 6*d.*

———grafs, 1*s.* 6*d.* and board.

Harvest in general, rated at 4*s.* an acre;
but scarce ever put out.

Hoeing turnips, 5*s.* first time, and 3*s.* the
second.

Repairing a hedge and ditch, 5*d.* a rod.

Thraffing barley, 1*s.* 2*d.* to 1*s.* 6*d.* a
quarter.

———oats, 8*d.* to 1*s.*

A head-man's wages, 11*l.* to 12*l.*

A ploughman's, 5*l.*

A dairy-maid, 5*l.*

Other maids, 4*l.* 15*s.*

Women *per* day in harvest, 9*d.* and 10*d.*

———In hay-time, 7*d.* and 8*d.*

In winter, 4*d.*

IMPLE-

IMPLEMENTS.

A waggon, 12 *l.* 12 *s.*
 A cart, 6 *l.* 6 *s.*
 A plough, 1 *l.* 5 *s.*
 A harrow, 1 *l.*
 A roller, 12 *s.*
 A scythe, 4 *s.*
 A spade, 4 *s.*
 Laying a share and coulter, 1 *s.* 4 *d.*
 Shoeing, 1 *s.* 4 *d.*

PROVISIONS.

Bread, a peck loaf, 1 *s.*
 Cheese, - - 2 *d.* a *lb.*
 Butter, - - 7 ——— 20 ounces.
 Beef, - - 3
 Mutton, - - 3
 Veal, - - 3
 Pork, - - 4
 Milk, - - $\frac{1}{2}$ *d.* a quart.
 Potatoes, - - 3 a peck.
 Candles, - - 7 a *lb.*
 Soap, - - 6
 Labourers house rent, 25 *s.* but near an
 acre of land to it.
 ——— firing, 25 *s.*
 ——— tools, 5 *s.*

BUILDING.

Bricks, per 1000, 10 *s.* 6 *d.*
 Tiles, per ditto, 36 *s.*
 Oak timber, 1 *s.* 4 *d.* to 1 *s.* 6 *d.*
 Ash, 9 *d.* to 1 *s.*

Elm, ditto.

Mason, *per day*, 20*d.* or 1*s.* and board.

A carpenter, ditto.

A thatcher, ditto.

In *Laystrove* and *Newton*, which form a constabulary, are,

900 Acres	90 Cows
4 Farms	450 Sheep
8 Acres of wood	183 Beasts
2 Poor families	£. 520 Rent
41 Souls	£. 10 To the poor.
28 Horses	

About *Nunnington*, the husbandry varies from the foregoing; the particulars are as follows:—The soil is chiefly limestone land; the open fields let at from 2*s.* 6*d.* to 4*s.* and the inclosures from 7*s.* to 10*s.* Farms are from 30*l.* to 90*l.* a year. Their course is,

- | | |
|-----------|-----------|
| 1. Fallow | 4. Fallow |
| 2. Wheat | 5. Rye |
| 3. Barley | 6. Oats. |

They plough four times for wheat, sow ten pecks, and reap, on an average, 16 bushels. For barley after a fallow, they plough four times, but when an after-crop but twice, sow ten pecks; the mean crop, three quarters *. They give but one stirring

* Mr. R. Marshall, an excellent farmer, has lately reaped six quarters *per acre* from 5 pecks sown, with grass seeds.

for oats, sow four bushels, and gain about thirty. They sow but few beans, their method is to plough once, sow five or six bushels broad-cast, never hoe them, the crop three quarters; use them for hogs and horses. For pease they plough but once, sow ten pecks, never hoe; the average produce 15 or 16 bushels. They give four ploughings for rye, sow six or seven pecks, and reap about three quarters and an half. As to turnips they cultivate so few, that no general account can be given of them. Clover they sow with barley, and mow the first crop; of which they get about two tons of hay: Wheat succeeds it.

Their manuring consists chiefly of the dung arising from their farm-yard, but they never litter it with chopt stubble, holding it, like their neighbours of *Newton*, better to leave on the land than convert into manure. They carry their dung directly from the yard on to the land without laying in heaps. Of lime, they use large quantities, lay three chaldrons (at 7 s. each) *per* acre on their fallows, in *June* or *July*, every third year. It does much good on limestone land, but more on clay.

Good grass lets at 10 s. an acre; they use it chiefly for dairying and breeding; a cow requires two acres for her summer food; and yields about 5 l. *per annum* product. In the height of the season a good

one will give as high as eight gallons a day, but four or five in the common quantity. Three, do not more than maintain one hog. Their winter food is straw and hay : Their calves they suffer to suck but a week, if to be reared, but six weeks to fat. They reckon that a woman and a girl can take care of a dairy of 20 cows. If the cows are tied up in the house all winter, they eat three loads of hay ; but abroad two loads will serve them. The wintering price is from 30 s. to 35 s. That of summer, the same.

The size of their flocks of sheep is from 20 to 80 ; the profit from 7 s. to 10 s. a head. The winter keeping 2 s. and 2 s. 3 d. They would be ready to give 9 d. a week, *per* head, through the month of *April*. The average weight of wool *per* sheep, 5 lb.

In their tillage, they reckon six horses necessary to 50 acres of arable land : They use four horses and two oxen in a plough, and do an acre a day. The former, they calculate, cost them 4 l. 5 s. *per annum* each, at an average. The joist in summer is from 25 s. to 30 s. In winter, 1 s. a week. Their oxen they keep in winter on straw and work them on it, but if hard, give them hay. Horses they reckon do the work best, but it is cheapest done with oxen.—The price *per* acre of ploughing is 4 s. 6 d.

They reckon that four years rent is necessary to hire a farm of half grass and half arable.

Tythes

Tythes are in general compounded for.
 —The poor have no manufacturing to employ them.

Their general œconomy will be seen from the following sketches :

110 Acres in all	11 Cows
30 Arable	3 Beasts
80 Grafs	3 Young cattle
£.35 Rent	25 Sheep
3 Horses	2 Servants.
4 Oxen	

Another :

200 Acres in all	22 Cows
110 Grafs	14 Young cattle
90 Arable	40 Sheep
£.82 Rent	2 Servants
8 Horses	1 Labourer.
8 Oxen	

LABOUR.

In harvest, 1 s. a day and board.

In hay-time, ditto.

In winter, 6 d. and ditto.

Mowing grafs, 2 s.

Thrashing wheat, 1 s. or 1 s. 2 d. a quarter.

Head-man's wages, 11 l. to 14 l.

A ploughman's, 5 l. 10 s.

A boy of 10 or 12 years of age, 3 l. or 4 l.

A dairy maid, 4 l. or 5 l.

Other maids, 3 l. or 4 l.

Women *per* day, in harvest, 9 d.

In hay-time, 6 *d.*

In winter, 2 *d.* and board.

IMPLEMENTS.

A waggon, 13 *l.* 10 *s.*

A cart, 7 *l.*

A plough, 1 *l.* 10 *s.*

A harrow, 15 *s.*

A scythe, 2 *s.* to 5 *s.*

A spade, 3 *s.* 6 *d.*

Laying a share, 9 *d.*

———a coulter, 9 *d.*

Shoeing, 1 *s.* 4 *d.*

PROVISIONS.

Bread, - 1 *s.* a peck loaf,

Cheese, - 2 *d.* a *lb.*

Butter, - - 6 $\frac{1}{2}$ — 22 ounces,

Beef, - - 3

Mutton, - - 3

Pork, - - 4

Milk, - - $\frac{1}{2}$ *d.* a pint.

Potatoes - 3 a peck.

Candles, - 7 *d.* a *lb.*

Soap, - - 6

Labourers house-rent, 20 *s.*

———firing, 25 *s.*

———tools, 10 *s.*

BUILDING.

Bricks, 10 *s.* per 1000.

Tiles, 36 *s.* ditto.

Oak,

Oak, 1 s. 2 d. to 1 s. 8 d.

Ash, 9 d. to 12 d.

Elm, ditto,

Soft wood, 6 d.

Mason, *per* day, 1 s. 6 d. to 1 s. 8 d. with meat.

Carpenter, ditto.

A thatcher, 10 d. and board.

Stone walling; digging, 2 s. 6 d. a rod, two yards high, without lime.

For getting stone-lime and burning it, 1 s. 6 d. a chaldron.

In the parish are,

1000 Acres

6 Farms

30 Horses

100 Cows

4 Labourers

200 Sheep

£. 350 Rent. *

* *Duncombe Park*, the seat of *Tho. Duncombe*, Esq; is the place in this country by far the most worth the attention of the curious traveller. The house is a very good one, the collection of pictures truly capital; and the ornamented grounds, some of the most beautiful in *England*. I shall begin with the first.

The hall is a well-proportioned room, of 60 by 40, surrounded by 14 large corinthian pillars of stone; and ornamented by several statues, &c.

Among which are,

Jupiter.

Mercury.

Minerva.

Mars.

Venus.

Diana.

The

Since I made my Tour, I am informed, that great advances of rent are here made, and upon very ruinous principles.

The inhabitants of *Nunnington* have two very large commons, greatly over-run with furze, &c. though excellent corn-land. Their common fields are quite *worn out*,

The saloon, of 87 by 25, is a handsome room, thrown into three divisions by ionic pillars. Here are four statues, brought lately from *Italy*.

Apollo.

Mars.

Bacchus.

Mercury.

And two busts, one of *Tully*, the other unknown.

The ceilings are very elegant, bas-relieves in stucco, and exceedingly well executed. In the center, *Flora*, incircled with festoons, very delicate and pleasing, small figures in the side and corner divisions; at one end *Peace*, and at the other *Plenty*. The chimney-pieces are handsome, their cornices supported by double ionic pillars; the ornaments inclose two landscapes. The tables are of *Siena* marble, and fine.

In the dining-room, 33 by 25, are the following pictures:

Hogarth. *Garrick* in the character of *Richard III.*

Titian. *Venus and Adonis*: Most capital. The colours admirably fine, delicate and expressive; the plaits and folds of *Venus's* naked body, exquisitely done: The whole piece inimitably pleasing. So few of this master's works in his fine brilliant glowing manner, are to be met with in *England*,
that

being a light lime-stone. Now common sense would direct, that these *latter* should be laid down with proper feeds, and converted to meadow or sheep pastures, and the *former* should be ploughed out and kept in tillage. By this practice the tenants might bear an advance, which now will prove ruinous to them.

that this piece is particularly curious. Most I have seen of them are of weak faded colouring, with none of that happy delicacy and pleasing expression, for which he is so famous; but both are united in this picture.

Madona delle Coniglia. The colouring of this piece also is very fine. The boy is excellently painted; but the draperies are not pleasing.

Julio Romano. Holy family. Excellent colouring. The attitudes of the figures, fine; and the manner in which they are grouped judicious: The draperies are very well done; but the design of the boy's body appears to be faulty, for the bend in his back is remarkably sharp.

Weston. Three landscapes; good. That with the statue of *Hercules*, very fine; that in which is a bridge, pleasing. The keeping fine.

The ceiling of this room, like that of the hall, is bas-reliefs in stucco, very delicately executed. *Jupiter*, &c. in the center; and *Cupid*, &c. in the corners. In the drawing-room, 25 by 22, are

Adoration

The roads Mr. *Duncombe* has made in this country are in the *true* stile of magnificence; a most excellent one, superior to any turnpike I have met with in *Yorkshire*,

Adoration of the shepherds: A noble picture. The attitudes of the *Virgin*, the principal shepherd and the boy, excellent. The boy is most happily painted; but the lights seem unnaturally diffused, flowing from no plain source.

Guido. Daughter of *Herodias*. Very fine.

Eliz. Sirani. Head of *Ceres*.

A small statue of *Antoninus*; fine.

In the yellow bed-chamber, of the same dimensions, are

Old Palma. Scourging of *Christ*. It was painted in competition with *Titian*, and crowned. Prodigious fine expression, and admirable colours; the light rather unnatural.

Carlo Dolci. Martyrdom of *St. Andrew*; middling. Not in that artist's glowing and capital manner.

Leonardo da Vinci. Head of *St. Paul*. Incomparably the finest work of this great painter I have seen. The expression is noble; the colours fine, and the minutiae inimitable: The air of the head is great as *Raphael*, the finishing delicate as *Vanderwerf*.

Le Brun. Salutation of the *Virgin*. The attitudes fine, and colouring good.

Dominichino. *St. Catherine*. Expression incomparably fine: Attitude inimitable. A noble picture.

Guido.

from his seat to the turnpike to *York*, &c. it was with the utmost pleasure, I travelled on as far as *Newton*, four or five miles.

Guido. *Bacchus* coming to offer marriage to *Ariadne*. *Bacchus* is the figure of an *Hercules*; but *Ariadne* delicate and elegant: Sweet drapery.

Barocche. *Christ* supported by an angel. Very fine.

Guido. *Christ* visiting *St. John*. The figures and drapery very fine.

Dominichino. Conversion of *St. Paul*. Legs, arms, and lights!

Claude Loraine. Morning, a landscape. The light wonderfully fine; the trees nobly done; the keeping and expression exceedingly great.

Ditto. Summer evening. Clear obscure, and brilliant glow, inimitable: The trees finely done.

Albano. *Venus* and *Adonis*. The colours are brilliant; but *Adonis* is a clumsy figure, and *Venus* disguised by dress.

Nicolo Poussin. A land storm; gloriously done.

Pietro Cortona. *Flora*.

Guido. *Artemisia*.

In the dressing-room;

Carlo Maratt. Assumption of the *Virgin*. Fine.

Borgognone. Battle-piece; clear and fine.

Giuseppe Cbiari. *Christ* carrying the cross.

Seb. Burdon. Repose in *Egypt*.

Guido. *St. Peter* penitent. Expression, colours, and finishing, astonishingly fine.

Correggio. *Virgin* and *Child*. The attitude and pleasing expression, fine; but the colouring dead.

Parmegiano.

Another circumstance to be observed, is the surprizing smallness of the farms which compose this gentleman's estate: Upon sixteen thousand pounds a year, around

Parmegiano. Female saint, prodigiously fine.

Aug. Carrache. *Pan* overcome by *Cupid*.

Rubens. Nymphs in this master's stile; not tempting ones.

Correggio. *Virgin* and *Child*, a sketch for his famous *Notte*. The attitude elegant, and the colours fine.

Passara. *Clorinda* wounded by *Tancred*; from *Tasso*. Great expression, but the tints as rough as *Bassan's*.

Bartolomeo. *Io* changed into a heifer; the figures by *Polemburg*.

Rubens. Day of judgment. An odious subject for painting; but highly finished in varnish. The better such works are done, the more they disgust.

Salvator Rosa. Two landscapes. Not in his usual manner.

Carlo Cignani. *Madona* and *Child*; fine.

On the other side; an anti-room, 24 by 20: Blue damask bed-chamber, 25 by 20.

In the closet;

Rembrandt. A *Dutch* merchant; fine.

Bassan. Mechanicks.

Upon the whole, this collection, though not very numerous, is extremely capital; the indifferent pictures are few, the fine ones admirable; some of them sufficiently great, to awaken in the beholder the most rapturous delight. *Titian*,
Leonardo

Duncombe Park, I was assured there was scarce a farm of 50*l.* a year; the general size 20*l.* with here and there one of £. 100 a year, particularly near *West-Newton*. All

Leonardo da Vinci, old *Palma*, *Guido*, *Julio Romano*, *Dominicbino*, *Parmegiano*, *Poussin*, and *Claud Loraine*, may be studied in the small collection of their works exhibited here, much better than in many more numerous ones.

Mr. *Duncombe's* ornamented grounds are, in their stile, as curious as his paintings; and cannot be viewed without yielding a most exquisite enjoyment.

The garden adjoining the house backs a terrace, from which the landscapes are much easier imagined from a few touches, than described in many words. At one end of it, is an ionic temple, commanding a noble variety of prospect and landscape: The former is seen to the left picturesquely broken by large trees near the temple itself: A little to the right of that a vast extent of country; then you look down upon a valley, winding at the bottom of a noble amphitheatre of hanging woods, and at the other end of the terrace, a tuscan collonade temple. The opposite woods which spread over a fine extent of hill, fringe the very shore of a beautiful river, which winds through the valley, and forms, almost in the center of it, a considerable cascade. Nothing can be more truly beautiful than the bird's eye assemblage of objects, which are seen from hence. The valley is intersected by hedges, which form inclosures of grass; the meanders

capable of very great improvement, even to doubling the rents. Now it is highly worthy of remark, that the husbandry of these farmers is universally bad;—their fields in a slovenly condition; and of so little encou-

meanders of the river are bold and well broken by scattered trees; the cascade almost over-hung with the pendant wood; the tuscan temple crowning a bank of wood, form together a distinct landscape, in which every object is such as the warmest fancy would wish for, or the correctest taste approve.

This view is beheld with a moving variation as you walk along the terrass, towards the *Tuscan* temple, with fresh objects breaking upon the eye as you advance: That building being situated at the point of what one may call a promontory of high land, projecting into a winding valley, and planted, the views from it are doubled; another terrass then appearing, the temple commands such various scenes of the sublime and beautiful as to form a theatre worthy the magnificent pencil of nature.

To the left you look upon the valley already described, with great advantage, for the hanging woods on the opposite side are seen in a much greater bending extent than from the former point of view, and have an effect really glorious. The valley, the river, and the cascade, are seen beneath you at a depth that presents a full view of every inclosure; the bank of wood against the garden makes a curve, which has a fine appearance, bounded at the top by the ionic temple.

ragement to them is the lowness of their rents, that many large tracts of land that

temple; in front, between the hills, an extensive woody valley opens beautifully variegated: An old tower, *Helmſley* church, and the town scattered with clumps of trees, are seen in the midst of it at those points of taste which make one almost think them the effects of design.——Turning from this noble picture to the right, a fresh one is beheld, differing somewhat from the former, but yet in unison with it in the emotions which it raises. The valley continues to wind within a hollow of surrounding hills, that throw an awful sublimity over the whole scene; they are covered with hanging woods, the brownness of which sets off the beauty of the river in a striking manner. It is here seen in a greater breadth, and as you look upon the line of its course, the sun-beams playing on its current throw a lustre on this sequestered scene surprizingly elegant. A cascade in view, adds the beauties of motion and sound to those numerous ones already mentioned.

The views therefore from this temple consist principally of two valleys, one to the right, the other to the left; neither of them are to be seen from the other, but both commanded by the point of the projecting hill, upon which the temple is situated. The opposite woods which form of each vale an amphitheatre, are divided in front of this temple by a swelling hill, scattered over with fern and other rubbish; the effect is good; different from all the surrounding ones, and presents to the eye a

yielded good crops of corn, within 30 years, are now over-run with whins, brakes, and

contrast of a striking nature. I cannot, however, omit remarking, that perhaps the general effect would have been greater from this point of view, had *all* the opposite hills been planted; as the prodigious magnificence of so noble a range of wood would have been striking at the first view; the very extent, in such a situation, which presents every tree to the eye, would alone have had a great effect: So that, allowing the full force of the contrast resulting from the waste hill, which certainly is considerable, yet as it divides a planted hanging one, than which nothing can be a greater beauty, it has its attendant disadvantages. May I further be permitted to observe, the terrasses being cut in right lines, with a strait edge, and slope from it to the edge of the precipice; and the yew-hedges on the other side being clipt in the exactest line of form, are, circumstances which act in a very different stile from the wonders beneath, where the bold touches of nature's pencil, are graces snatched beyond the reach of art; rather dissonant from such regular works.

This temple is a circular room finishing in a dome, the ornaments white and gold in mosaics; and four statues as large as life in niches.

But these ornamented grounds are not the only ones boasted of by *Duncombe Park*; at the distance of about two miles, is another called *Ryeval's Abbey*, from the ruins of an antient one. It is a most bewitching spot.

This

other trumpery. The farmers are a poor wretched set of people.

This ground consists of a noble winding terrafs, upon the edge of an extended hill; along one side at a striking depth is a valley; on the other a thick plantation, bordered by shrubs: At one end is a circular temple with a tuscan colonade; at the other end another temple, with an ionic portico. This is the outline. From the *Tuscan* temple, the end view is exceeding fine; at your feet winds an irriguous valley, almost lost in scattered trees: In front vast hanging woods are spread over the opposite hills, and form a variety of steepes, dells, and hollows. Here and there the range of wood is broken by cultivated inclosures; at the bottom of these hanging forests, upon the edge of the valley, an humble cottage is seen in a situation elegant in itself, and truly picturesque in the whole view. The distant hills which are seen above, are waste grounds, with fern, whins, &c. which seem to bound the little paradise in view, and add to the enjoyment of beholding it, that which results from contrast and unexpected pleasure.

Inclining a little to the right, you look down upon a prodigious fine winding valley; on one side project boldly, noble hanging woods, which fringe a continued hill from its very summit, to the bottom. Nothing can be more elegant than this valley, which consists of a vast number of grafs inclosures, intersected with thorn hedges;

If it be demanded, how such ill courses are to be stopped : I answer, Raise their

hedges ; the scattered trees that rise in them give different shades of green, and the light being seen through their branches, has the real effect of a brilliant clear obscure, so difficult to be imitated in painting : This beautiful valley is lost among projecting hills, some covered with pendent woods, others waste, and some cultivated.

More to the right towards the terrafs, the view is exquisite : The waving plantation of trees and shrubs bound the terrafs on one side ; leading to the ionic temple, which is beautifully situated, on the other side, the valley winds in a lower region, and presents a romantic scene : It consists of grass inclosures, scattered with trees ; a village of straggling houses, keeping their heads above natural clumps, each a landscape of itself : This sweet valley, is bounded by sweep of hills.

Following the terrafs, the views are different. Nothing can be finer than the valley waving to the right and left, a river winding through it, almost overshadowed with trees, which rise from the very shore into hanging woods, that spread forth an extent of hills, cut with grass inclosures.

Pursuing the course, the landscape opens and presents its beauties full to the eye. The valley is here broad, the inclosures numerous, the verdure of the meadows beautiful : and the scattered trees and rapid stream add greatly to the scene : The hanging woods have a noble appearance ;
and

rents. First with moderation; and if that does not bring forth industry, double them:

and in front the termination of an extensive down so different from the other objects, a great effect: A neat farm-house under a clump of trees; adds to the beauty of this part.

Advancing farther on the terras, a scene finer than any of the preceding, is next viewed. You look through a waving break in the shrubby wood, which grows upon the edge of a precipice, down immediately upon a large ruined abbey, in the midst, to appearance, of a small but beautiful valley; scattered trees appearing among the ruins in a stile too elegantly picturesque to admit description: It is a casual glance at a little paradise, which seems as it were in another region.

From hence, moving forwards around a curve of the terras, the objects are seen in new directions; a variety, not a little pleasing. The ruins of the abbey appear scattered, and almost in full view; the valley in front is broad and highly beautiful: Behind, it is half lost among the projecting hills, but a new branch of it appears like a creek running up among hills, spread with wood: The hanging woods in front are seen to great advantage; and the abbey with some scattered houses are most picturesquely situated. The inclosures, of which the valley is formed, appear at this point of view extremely beautiful; the scattered trees, hay stacks, houses and hedges, all together form a pleasing landscape. Two distant

But if you would have a vigorous culture go forwards; throw 15 or 20 of these farms

hills give a proper termination to the whole view.

Further on from this spot, you look down a steep precipice almost on the tops of the ruins; the situation quite romantic: Beyond it, the valley appears with some variations in its usual beauty; and turning your head to the scenes you have left, a bridge of three arches thrown over the river, catches your sight in a spot which adds greatly to the view. The opposite banks are spread with hanging woods, and above them the uncultivated hills appear in irregular projections.

Before you arrive at the portico, the scene is much varied; hitherto an edging of shrubby wood along the brink of the precipice hides its immediate steepness from your eye, but here it is broken away, and you look down on the abbey in a bolder manner than before; the trees are wildly scattered, and all the other objects seen in great beauty.

The view from the ionic temple is a noble one, equal to any of the foregoing, and different from all. A strong wave in the line of the terrace presents a view of its own woody steep bank, rising in a beautiful manner to the tuscan temple, which crowns its top. The abbey is seen in a new but full view; the bridge finely encompassed with hanging trees: The range of pendant woods that fringe the opposite hills appear almost in full

front

into one, as fast as the present occupiers drop off. This is the only means in such

front, and the valley at your feet presents her profusion of beauties: It is a noble scene.

The ionic porticoed temple, is a beautiful room of a pleasing proportion, 27 by 18, and elegantly ornamented. The ceiling is coved, an oblong in the center containing a copy of *Guido's Aurora*, done in a very agreeable manner, the graceful attitudes of the hours finely preserved, and the glowing brilliancy of the colouring pleasingly imitated. The cove part of the ceiling is painted in compartments. On the four sides, *Andromeda* chained to a rock:

Diana.

A sea *Venus*: attitude good.

Hercules and *Omphale*. Her attitude pleasing, and her whole figure beautiful though not correct; the roundness of the breasts and limbs, and the plaits and folds of her flesh well done: The expression of the *Cupids* well imagined.

At the corners of the cove, *Cupids*; and in smaller compartments other subjects: The whole performance of *Burnice*, who came from *Italy* to execute it.

The cornice and frieze, and the chimney-piece, which is of white marble, are very elegant. The former with the pannels of window-cases, &c. and room, ornamented with gilt carving on a brown ground. Upon the whole, this elegant little room in respect of proportion and ornament, the most pleasing one I remember to have seen in any temple.

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Hercules and *Omphale*. Her attitude pleasing, and her whole figure beautiful though not correct; the roundness of the breasts and limbs, and the plaits and folds of her flesh well done: The expression of the *Cupids* well imagined.

At the corners of the cove, *Cupids*; and in smaller compartments other subjects: The whole performance of *Burnice*, who came from *Italy* to execute it.

The cornice and frieze, and the chimney-piece, which is of white marble, are very elegant. The former with the pannels of window-cases, &c. and room, ornamented with gilt carving on a brown ground. Upon the whole, this elegant little room in respect of proportion and ornament, is the most pleasing one I remember to have seen in any temple.

cases to improve husbandry, and consequently to promote population. *

From *Newton*, I took the road across *Hambledon*, a tract of country which has not the epithet *black* given it for nothing; for it is a continued ridge of black moors; 11 or 12 miles long, and from four to eight broad. It is melancholy to travel through such desolate land, when it is so palpably capable of improvement: Much of it is green sward, and wants nothing but inclo-

* At *Hovingham*, about four miles from *Newton*, Mr. *Worsley* has a new-built house, which is viewed by strangers. The approach is through a very large stone gate-way, upon which is the following inscription;

Virtus in actione consistit.

and as the building looks pretty much like the gable-end of a large house, I mistook it at first (with that inscription) for an hospital: The entrance is directly out of the street for coaches, through a narrow passage into a large riding house, then through the anti-space of two stables, and so up to the house door. Nothing should be condemned because uncommon, but I should apprehend with some horses, that it might hazard the necks of many a coachful, if the ladies persisted in not walking this approach.

In the hall, is an antique basso relievo of a bacchanalian group:

Two bronzes—*Hercules* squeezing *Anteus*; and a *Hercules* and a stag.

Likewise

ing and ploughing to be converted at once into good farms. Even the blackest parts are evidently deep enough to afford, if drained where wet, a good depth of soil undoubtedly profitable for many articles of culture. The common reply, that such improvements will not answer the expence, can proceed from nothing but vulgar prejudices, or the result of a few ill-judged trials : If land is found improper for the production of the

Likewise a very good portrait of bishop *Williams*. The chimney-piece is of white and *Siena* marble; with doric pillars, an instance of the bad effect of pillars without bases even of that order. The pannels of the room are painted in fresco.

In the doric room, the chimney-piece is of *Sicilian* jasper; here are, *Lot* and his *Daughters*; in a dark stile, but good expression.

Bacchus offering marriage to *Ariadne*.

Over the chimney another. The cattle, figures, light, and trees well done.

In the library, are several busts, and small statues; a *Venus of Medicis* in bronze, and over the chimney a landscape; the colouring of which is unnatural, but it has an agreeable glow, and the light is good.

In the drawing-room, the collection of drawings is very fine; among others, I remarked

Hercules,

most common crops (which by the bye has not been the case with these) it is at once concluded to be good for nothing; but many soils that will yield neither wheat or barley in common management, will undoubtedly produce beneficial crops of something else, perhaps more profitable: I have known this to be the case both with potatoes and carrots.

About *Kirby*, the soil is a gravelly sand, lets at an average at 5 s. an acre inclosed,

Hercules, &c. Very fine.

A triumphal entry. Ditto.

A naked figure with a Cupid dressing her leg, and a man drawing some drapery before her *. Admirably done.

Perseus and *Andromeda*. Excellent.

Danae and the golden shower. Fine.

An old woman sitting in a chair. Very fine.

Women and boys. Exquisite expression.

Charity and her children. Very fine.

Among the pictures are,

Leda. Good; but the colours gone.

Venus and *Adonis*. Ditto.

Elizabeth; a *Rubens* figure.

* The person who showed the house, knew none, either of the pictures or drawings.

50 acres they reckon a large farm ; as that is the case, it is no wonder it lets no higher, for soils of this nature require improvement, and none but large farms ever meet with that. Their course is,

1. Fallow—2. Wheat—3. Oats.

Their chief subsistence is keeping sheep on the moors ; their flocks rise from 300 to 1000 ; the profit of which they reckon at 10 s. a head.

In the great room, 35 square by 25 high, are the following, among other pictures.

Susanna and the *Elders*. Fine ; but no expression in her countenance.

Lot and his *Daughters*. In a very dark stile.

Landscape ; the flight into *Egypt*. Good.

King *Charles* on horse-back ; the same as those said to be by *Vandyke*, and the horse by *Wootton*.

I should remark, that this room opens on to a small gallery, which has windows into the riding-house, and as that communicates immediately with four or five stables, I should suppose, that when they are well stocked with horses in hot weather, it would be easy enough to *smell*, without being *told* that these two rooms (the best in the house) are built over the apartments of the *Hubbubms*.

They

They plough with three horses at length, and do an acre a day. The price *per* acre is 5 s.

The employment of the poor women and children is chiefly spinning flax.

The œconomy of their farms will be seen from the following sketches. One has

50 Acres	3 Cows
£. 12 Rent	300 Sheep
3 Horses	5 Young cattle
2 Oxen	1 Boy

Another :

35 Acres	2 Cows
£. 9 A year	200 Sheep
3 Horses	1 Man.

LABOUR.

In harvest, 9 *d.* a day, and board.

In hay-time, ditto.

In winter 6 *d.* and ditto.

Wages of a head-man, 8 *l.*

Wages of a plough lad, 5 *l.*

————— boy of 10 years, 2 *l.*

Dairy and other maids, 3 *l.*

Women *per* day in harvest, 6 *d.*

In hay-time, ditto.

In winter, 4 *d.*

IMPLEMENTS.

A new waggon, 6 *l.*

A new cart, 4 *l.*

A plough, 15 s.

A harrow, 15 s.

A scythe

A scythe, 2 s. 6 d. to 5 s.

A spade, 2 s. 6 d.

Laying a share or coulter, 2 d.

Shoeing, 1 s. 4 d.

PROVISIONS.

Bread, 2 s. the peck loaf.

Cheese, - - 2 d. $\frac{1}{2}$

Butter, - - 7 $\frac{1}{2}$ — 16 ounces.

Beef, - - 3 $\frac{1}{2}$

Mutton, - - 3 $\frac{1}{2}$

Veal, - - 4

Milk, - - 1 per quart.

Potatoes, - - 4 a peck.

Candles, - - 6 $\frac{1}{2}$

Soap, - - 6

Labourers house rent, 25 s.

———firing, 10 s.

———tools, 5 s.

The culture of turnips is just coming in. Keeping race horses at 50 l. a year, one article of farming.

From the road that leads from hence into *Cleveland*, very beautiful prospects to the left are seen; you look between black hills down into extensive valleys, cut into innumerable inclosures, and bounded by distant hills. But the most exquisite is seen just before you go down into *Swainby*. After traversing a vast range of dreary waste, and shut up in a rocky hollow between two wild hills, you break at once upon a view which

which cannot fail of astonishing : You look between the two hills upon an immense plain, comprehending almost all *Cleveland*, finely cultivated, the verdure beautiful; and the inclosures, adding prodigiously to the view : In front appears a most picturesque hill, intersected with green hedges, and cultivated to the very top : One of the most pleasing objects in the world.

Upon descending into *Cleveland*, one circumstance must strike every traveller ; the admirable manner in which all the farm-houses are built : I passed scarce any but new ones of brick and tile ; the barns, stables and offices of all sorts the same : And the houses for thirty or forty pounds a year, fully sufficient for two hundred. Nothing gives a country such an air of chearfulness——nothing such an idea of ease and happiness——nothing so much improves the beauty of it, as such edifices !

At *Ayton*, I stopped to view the experimental agriculture of Mr. *Wilson* : It consists chiefly of trials of the drill husbandry : His drill plough is of his own invention ; upon the principle of the *Persian* wheel, lifting the seed up, and throwing it over into the tubes that convey it into the ground ; it sows three rows at 14 inches asunder, or six at seven. With this machine he has drilled wheat, barley, beans, and turnips,
and

and with success; but has never done it in the horse-hoeing way, only for hand-hoeing. Mr. *Wilson* has likewise a levelling machine, which deserves to be generally known. See plate II. fig. 2.

(1) The front edge, which cuts up the hill, two feet four inches long, and the iron edge four inches broad.

(2) The handles.

(3) A lever to bear upon, when the machine is loaded, that it may empty, Five feet eight inches long.

(4) 19 inches wide, and 10 deep.

(5) One of the handles: When the machine stands level, this is two feet eight inches from the ground.

(6) A rolling pivot fixed to the spout, and by which it turns when loaded.

(7) An iron in the center between the two handles, which by pressing or raising, moves the iron (8), and so draws or pushes the straight central bar, by means of the spring (9), so that the bolt (10) is either pushed into a small cavity in the spout, in order to fix it, or drawn out, that when full it may turn upon the axis (6), and unload itself.

(11) The iron chains to which the horses are fixed.

Fig. 3. is the iron machinery more at large.

From

From a to b, 3 feet 2 inches.

b to c, 14 inches.

d to e, 14 ditto.

(f) Two small holes, one for the crook (g) to go into; one it is in.

The iron from b to e, is represented more at large, fig. 4.

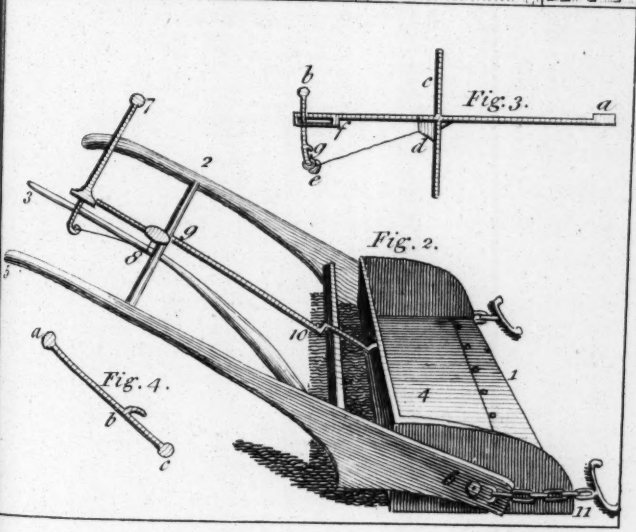
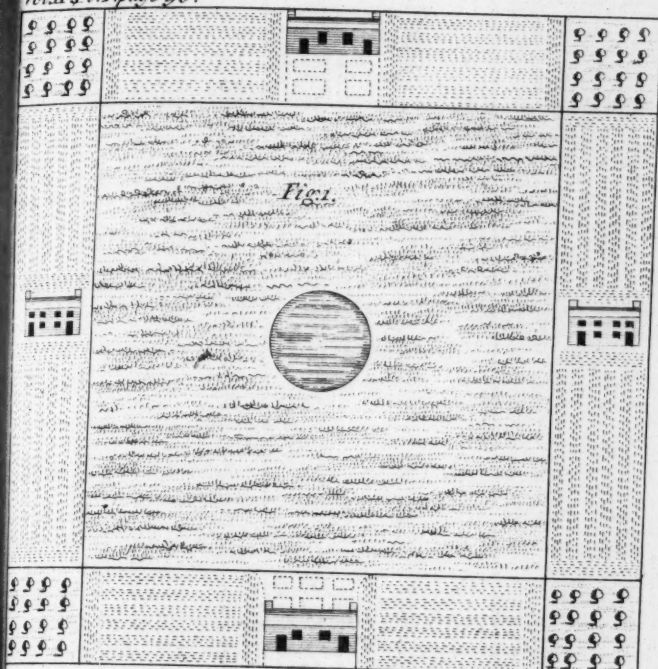
From a to c, 17 inches.

a to b, 13 ditto.

The crook is made to drop into the hole before marked f, which draws out the bolt; and when dropt down through the other hole, shuts it in; the bolt goes into the cavity about half an inch.

Mr. *Wilson* has part of a field of cabbages in rows, four feet afunder, the plants two feet from each other: The seed was sown in *September*, and planted into the field in *May*; they had been horse hoed three times, and weeded besides: They promise to be a profitable crop. He had likewise some fine turnips in drills, 14 inches afunder.

At this town is an allom-work, which employs 30 or 40 hands: The process is this; it is fixed under a large rock of allom stone, where they dig it: They first throw it into a heap upon a small bed of whins or dry rubbish, which fires it, and the sulphureous nature of the ore is such as renders it very easy to burn a vast heap. When calcined, they throw it into cisterns





of water, to steep for eight or ten days, after which they run it off, and steep it again as much longer; this renders it liquid. It is then run down from the rock in troughs into a cistern at a distance, and from that by other troughs into the boiling-house, where it falls into the boilers, which are of lead upon an outside of iron: In these it boils four and twenty hours, after which they run it off into a settler, and then into coolers for four or five days; here they let off the liquor, and the settlings are the allom in a coarse state. This they boil again till it is thick, and run it into hogheads in its last state, when it is fit for the market; a common selling price is 18*l.* *per* ton. The men are in general paid by the day, at 1*s.* 4*d.*; but if they work by measure, they earn 1*s.* 6*d.*

Here you must allow me to put a period to this long letter.

I am, &c.

Gislerongb.

 L E T T E R V I I I .

TH E improvements carrying on around *Kirkleatham*, the seat of *Charles Turner*, Esq; are such as merit a particular attention. When he came to his estate, he found the mansion such as by no means satisfied him; he converted it into the house described below *.

The roads leading every way to it were execrably bad: those parts now unmended prove it sufficiently: He exerted himself with the utmost spirit to remedy this most disagreeable of all evils: About his own house he makes them himself, and throughout the rest of *Cleveland* vigorously pushed a very considerable subscription, to render them all good without the assistance of turnpikes; and it should be remarked, that such parts of the road between *Stokesley* and *Kirk-*

* *Kirkleatham*, near *Gilborough*, you would think very well worth viewing, though not one of the magnificent *shew* houses commonly hunted out by travellers. Those who would wish to see an excellent living house, in which the agreeable part of convenience is consulted, without destroying the scale of a large family, will be pleased with this seat, which, I must be allowed

leatham (which are the only ones I travelled) as are finished, and the bridges that are built, are done in a manner equal to most turn-pikes, and superior to many.

The farms, of which his *Cleveland* estate is composed, consisted of scattered fields very little connected, and generally at a distance from the houses, most of which were in a bad condition. These defects he remedied with the utmost spirit and judgment, for he built new farms with convenient barns, stables, cow-houses, &c. &c. in the strongest manner, of brick, tile, and proportionable

to think, does great honour to the abilities of Mr. Carr.

The line of front is 132 feet, and the depth 65. The principal floor contains; first a gallery 61 by 21, and 21 high; in the middle a bow window, of one third the length of the room, and nine feet projection. A noble room of very pleasing proportions: The entablature of the corinthian order enriched and well ornamented. The cornice of the door-case is supported by corinthian pillars, the whole very light and elegant, from the design of Mr. *Chambers*. The chimney-pieces by *Wilton*, of *Siena* marble polished. Plain but elegant.

The dining-room is 46 by 26, and 22 high. The ceiling by Mr. Carr, coved in stucco; the central part in compartments describing an oval, in which is a blazed wreath of branches surrounding a horn pierced with arrows; around it, compartments ornamented with scrolls and

timbers, in the properest situation of the estate, and then threw to each the fields around it *.

In this excellent work he has made so great a progress, that five complete sets are already erected, besides great reparations of others that were found where they ought to remain.

With the cottages of the poor he found the same inconvenient circumstances: They were wretched hovels of themselves, and placed every where but in the proper spots.

festoons; the cove decorated in the same manner and with bas-reliefs. The execution very neat.

The chimney-piece by *Wilton*, plates of *Sienna*, with ornaments of polished white marble.

A breakfast-room, 27 by 20.

The first bed-chamber, 25 by 21; the dressing-room, 20 by 18.

The second, 18 by 18; the dressing-room, 24 by 21.

The third, 18 by 18.

The fourth 24 by 18.

In the attic story, are ten bed-chambers; in the basement floor five, one dressing-room, a hall, and a billiard-room. These apartments are all fitted up for company, as the servants are laid in the offices.

From

* This was at the same time executed at *Wombwell*, another estate of Mr. *Turner's* in the *West Riding*, where he built six new farm-houses and offices complete.

He has proceeded far in remedying this evil; by raising fourteen new ones substantially built of brick and tile, and by placing them round an open space, by way of green, has greatly ornamented the country. Besides these buildings, Mr. *Turner* has raised a new blacksmith's house and shop, a wheelwright's, a butcher's, and a shopkeeper's: By which means he has provided the necessary tradesmen for the neighbourhood, at the same time that his village is greatly increased and ornamented.

Formerly the neighbourhood was much pestered with a collection of little blackguard alehouses, which not only encouraged idle-

From this sketch it is seen how well the whole space is divided: Into an exceeding good dining-room, an excellent rendezvous-room, a breakfasting room: Four principal bed-chambers, with dressing-rooms; fifteen other bed-chambers and a billiard-room. It is certainly thrown into apartments with as much judgment as any house in *England*.

At no great distance are three public edifices, raised by the *Turner* family, which well deserve notice: An hospital, a public school, and a church; a mausoleum adjoining.

The first is a large handsome building, inclosing three sides of a court, founded by Sir *William Turner*, as appears by the following inscription over the entrance.

" This hospital was founded and endowed 1676, by Sir *William Turner*, knight, Lord Mayor

ness and drunkenness among all the villagers, but were constant receptacles of smugglers, a species of vermin much frequenting the coast; all these he abolished, and in their room has built two handsome inns, one in the new village abovementioned, and the other in a little fishing town, a part of his estate on the coast. They have several very handsome apartments, and excellent conveniences of all sorts, *and by fixing in them creditable people and annexing a farm to each, the low mischievous practices of the former houses are destroyed, and real utility substi-*

Mayor of the city of *London*, whose care, sufficiency and integrity in that magistracy and other public offices, in the most difficult times, the unusual presents and grateful acknowledgments of several companies of the city declare; whose charity, and love for his native country, let this foundation testify. The chapel, and the two school-houses were erected, and the masters and mistresses houses improved and enlarged, 1742, by the orders and direction of *Cholmley Turner, Esq;* the present governor."

The foundation consists of ten old men, ten old women, ten boys, and ten girls: A chaplain, a mistress, and a nurse. A charity of the most useful species. The boys and girls are taken in between the ages of nine and eleven; they leave it at sixteen; are cloathed at going out, and at the expiration of seven years, upon bringing certificates of their good behaviour, they have a benefaction of 6*l.* 13*s.* 4*d.* the fund for which cloathing and bene-

faction

tuted in their room. A farther object should not be overlooked; the inn at the fishing town is very near one of the finest, firmest beaches in *England*: This induced Mr. *Turner* to raise a house with handsome apartments; to build bathing machines, and have the necessary attendants, that his own company, and the neighbourhood might have the convenience of bathing without the trouble or expence of going to *Scarborough*. An excellent design, which cannot fail of being attended with agreeable, and probably beneficial consequences.—The vice and

faction was left by Serjeant *Turner*. The chapel is a small but very neat one, 35 feet by 33, the roof arched in compartments and supported by four ionic pillars, light and handsome. Over the altar, is a very fine painting on glass: The subject is the offering of the *Magi*; the heads, attitudes, and group very expressive; the colours exceeding good. On one side Serjeant *Turner*, the hand inimitably done; and on the other, Sir *William Turner*. The present Mr. *Turner* has increased the porter's salary, that no fees may be taken from any persons whatsoever who view the foundation.

The school is a large handsome quadrangular building, raised in 1709 by *Cholmley Turner*, Esq; and endowed with 100 *l.* a-year to the master, 50 *l.* to the usher, and 30 *l.* for the purchasing books and other uses. There is a handsome library, well filled with valuable books; and among other curiosities, a carving of *St. George*

idleness attending a parcel of wretched hedge alehouses are quite removed, and numerous conveniencies to the country established in their stead.

Besides these works, he has erected a house near the sea with spacious granaries, warehouses, &c. designed for, and let to a merchant, by way of fixing a trade at this place; or at least providing such conveniencies, that the farmers may be sure of proper places for lodging their corn ready for the sea, and also enabling the merchant to speculate in the corn trade at *Kirkleatham*

and the Dragon, cut out of one piece of box-wood; the minute delicacy of the execution was, I believe, scarce ever equalled.

The church is a very light and handsome building of stone, raised by Mr. *Turner's* father, now living: The area within is 90 feet by 42, the roof supported by six tuscan pillars: Adjoining is the mausoleum, a circular dome room of 20 feet diameter, built by Mr. *Cholmley Turner*. Among other monumental statues, here are those of that gentleman and *William Turner*, Esq; by *Schemacher*.

The following farms, are those of which the endowment of the hospital and school consists: I insert them, not as an object of consequence in itself, but for the sake of the proportions, and to shew how well the income of these foundations has been managed: The lands of charities and other public works are in general so extremely

as well as at other places. A design of a most enlarged nature, and which can scarcely fail of being attended with very beneficial effects.

Having taken this slight survey of these most useful establishments and buildings; let me, in the next place, aim at giving some account of this gentleman's experimental agriculture, which is more worthy of attention than most of the sort. —The points he principally aims at in this walk, are

tremely underlet, that this example of raising the rents ought to be universally followed.

Farms.	Old rent.	Present ditto.	Acres.	Rate.
No. 1.	£.150	£.193	384	11 5
2.	67	92	191	9 7
3.	69	103	191	10 9½
4.	25	42	147	5 9
5.	25	53	163	6 5½
6.	93	160	315	10 2¼
7.	44	60	198	6 1
8.	25	57	177	6 2½
9.	10	13	44	5 8½

508	773	1810
508	508	

Increase of rent

265

Farms	-	-	-	-	-	£.
Annuity out of other lands	-	-	-	-	-	773
						50
						823
						£.
						From

First, The introducing the cabbage culture.

Secondly, That of clover.

Thirdly, The improvement of the breed of cattle.

Fourthly, The increasing the population of his estate.

Fifthly, The general improvements of his farms, which he takes into his own hands by degrees, and when brought into a proper state, re-lets them.

With some other points of enquiry which I shall afterwards minute.

Cabbages Mr. *Turner* has cultivated from the year 1764, when he began his trials. That year he planted 3 rood upon a piece of ground that had been full of trees, which were stubbed. After this it was ploughed in winter two or three times, and in the beginning of *May* planted in rows three feet asunder, the plants two feet from each other. They were only hand-hoed, but the operation repeated three or four

From the temple, upon the hill in the park, is a most noble prospect of the country around these edifices; you look down upon them in the midst of a fine extensive vale intersected with inclosures, and bounded by the sea and the river *Tees*; the higher lands of *Durham* filling the distant view: The new farm houses raised by Mr. *Turner*, render the prospect neatly pleasing.

times:

times: They were first used at *Candlemas*, for some fat oxen, and they eat them very heartily. They were the *Scotch* cabbage. The experiment, though not conclusive, gave great hope of success on a larger scale.

In 1765, two acres, a good loamy soil, were planted. An oat stubble was fixed upon in the preceding autumn, and fallowed for the purpose. The seed was sown in *March*. The 18th and 19th of *June* they were planted directly out of the seed-bed, in rows, the same distance as before. They were horse-hoed twice with a common plough, and the rows hand-hoed as often. This crop was used between *Christmas* and *Candlemas*, and chiefly in a deep snow: Eighteen oxen were fattening on turnips, which being buried by the snow, the beasts were put to cabbages; they all eat them much better than the turnips. A particular trial was made, by burying some cabbages in their feeding-trough under a heap of turnips; they turned aside the turnips at once, without biting one, and seized the cabbages with the utmost greediness. These two acres, were part of twelve; the other ten sown with turnips. In the spring following the whole field was sown with barley: The part after the cabbages was much freer from weeds than the rest of the field, and yielded eight bushels *per* acre more.—This experiment, upon the whole, was very satisfactory;

factory; and the greatest motive for pursuing the culture with spirit.

The same year, upon half an acre of clay land, summer and winter fallowed, another experiment was made on cabbages by planting them with a plough. About midsummer a furrow was drawn, the plants laid in, and covered by the ridge of another furrow; then the land was ploughed in the common manner, until the furrow was at four feet distance from the row of plants, when it was filled in the same manner as before; and so the work was continued till finished. Most of these plants lived, but were afterwards very backward, neither cabbaged nor throve well. They were eaten by sheep at *Martinmas*.

In 1766, two acres more were cultivated, upon a clay soil, an oat stubble, winter fallowed. At the end of *May*, this field was planted with the plough in the same manner as before, only a good handful of dung being laid by the planters upon the root of every cabbage. They were horse-hoed twice, and hand-weeded as often. This crop turned out very good, the average weight *per* cabbage being 14 *lb.* but yet the opinion was that this way of planting was by no means equal to dibbling them. They were begun to be used about *Martinmas*, with fat oxen; eight or nine were feeding on them, some for a fortnight, some a month,

a month, and some nine weeks : The fattening all of them was finished by the cabbages, which more than answered all expectations ; the beasts taken out of fine grass, fell to the cabbages with great eagerness, and were carried on as well as any beasts could possibly be, on any other food.

In 1767, Mr. *Turner* had eight acres of the large *Scotch* sort ; and two acres of the *Anjou*.

For the first, the land was both summer and winter fallowed ; and planted from the seed-bed the 18th of *June*, in rows four feet asunder, and two feet from plant to plant. They were twice horse-hoed, and hand-hoed as often. They were begun to be used about *Martinmas* with fat oxen, milk cows, and fat sheep ; but the leaves not cabbaged were all broke off, and given to young cattle with straw. Two oxen, in very low condition, and a cow were put to them at that time, and kept on them till the beginning of *March* ; they were then quite fat, and sold to the butcher, each 80 stone 14*lb*. The cow was about half fat when she began the cabbages, she was completed in a high degree by the beginning of *March*.

One of the oxen had his cabbages, &c. weighed to him ; he eat 15 stone, or 210*lb*. and half a stone of hay, every 24 hours.

Before the milch cows were put to the cabbages, the milk of one of them was measured.

measured, and again three days after she had fed on them; the quantity was increased two quarts *per diem*, but it tasted of the cabbages.

The cows in general took to them with great eagerness, and they agreed very well with them. The calves also throve well on them. The sheep fattened excellently, and were sold from the cabbages at 43 s. a head to the butcher. The young cattle did much better on the leaves and straw, than ever before on straw or hay alone.

The *Anjou* cabbages were planted in a rich black loam and clay, after oats, but upon a winter fallow. The seed was sown in *March*, and the plants set the beginning of *May*, in rows four feet asunder, and two feet from plant to plant. They were horse-hoed twice, and hand-hoed twice. They were begun to be used a little after *Michaelmas*, at three feet and an half high, by cutting off the leaves and leaving the stems. They were given to milch cows, which liked them much at first, but the leaves withering in frosty nights, the cattle would eat them no longer. The stems stood till the middle of *March*, but gave very few sprouts.

In 1768, Mr. *Turner's* experiments on this most useful vegetable, are very extensive; consisting of six pieces of land.

The seed was sown at twice, some the latter
end

end of *August*, and the rest at the end of *February*; all the large *Scotch* fort. The fields were,

No. 1. Three acres and an half. The soil a rich black loam, both summer and winter fallowed; planted the beginning of *April* in rows, four feet asunder, and two feet from plant to plant.

No. 2. Three acres. The soil clay, and black loam; on an oat stubble, winter fallowed; planted the beginning of *May*, in the same manner.

No. 3. One acre and an half. The soil a rich black loam; planted the middle of *May*, on a winter fallow, after oats. Rows the same.

No. 4. Three acres. The soil strong clay, but long in tillage; planted the beginning of *June*, on a winter fallow, after pease. Rows the same.

No. 5. Five acres and an half. The soil a light marly loam, not very rich, but limed for the cabbages, two chaldrons *per* acre, a fortnight before planting. They were set the middle of *June*, on a winter fallow; two acres and a half after wheat, and three after oats. Rows the same.

No. 6. Ten acres. The soil a strong clay; long in tillage; limed before planting, one chaldron and a half *per* acre. Set the end of *June*, on a winter fallow, after clover. Rows the same.

All

All these experiments were horse-hoed twice; and hand-weeded twice.

Respecting the success of these crops, I made the following minutes:

No. 1. — In this field we cut a prime cabbage (not however so picked that we could not find many as large, and some probably larger) that weighed with the stalk and leaves					35 lb.
The loose leaves	-	-	7	lb.	
The stalk	-	-	2		
					9

Weight of the cabbaged part	26
-----------------------------	----

Weight of the food for cattle	33
-------------------------------	----

After viewing the whole piece with the utmost attention, I fixed upon a cabbage by way of medium, as near as possible the average of the whole; but, if any variation, rather under than over the truth.

The weight, stalk and leaves			26 lb.
The leaves	-	-	4 lb.
The stalk	-	-	2
			6

Weight of the cabbaged part	20
-----------------------------	----

Ditto, of the food for cattle	24
-------------------------------	----

Now by planting the land in rows, four feet asunder, and the plants two feet from each

each other, every cabbage takes up eight superficial feet; and as there are 43,560 feet in an acre, there are consequently 5445 cabbages. This number, at 24 *lb.* per cabbage, gives 58 tons, 6 cwt. for the amount of an acre; which is beyond all doubt a very considerable produce.

Mr. *Turner* has found from experiment that the improvement of oxen of 80 stone, by fattening four months on cabbages, amounts upon an average to 5 *l.* 10 *s.* Some he has put up lean, but generally in good flesh. According to the experiment abovementioned of an ox of that weight, eating 210 *lb.* in 24 hours, the quantity in four months would be 11 tons 5 cwt. That is, an acre would fat five oxen, and leave above two tons of cabbages to spare. And at 5 *l.* 10 *s.* an ox, this is 27 *l.* 10 *s.* per acre. The five beasts, at 7 *lb.* of hay per day per head, will eat in the four months one ton 17 cwt. Say two tons, this at 30 *s.* a ton, is 3 *l.* and deducted from 27 *l.* 10 *s.* leaves 24 *l.* 10 *s.* for the product of the cabbages.—Thus far the fact; now for the curiosity of such as from *supposition* would fix upon different *data*, let us calculate the value upon different rules.

Suppose the ox to take five months to make the above improvement of 5 *l.* 10 *s.* he will, in that case, eat 14 tons; and an acre will fat four oxen, and leave a surplus of

two tons of cabbages. This at 5*l.* 10*s.* an ox, is 22*l.* *per* acre, hay the same as before, 3*l.* and the produce of cabbages 19*l.*

If an ox in five months makes the improvement of no more than 5*l.* the product of the cabbages will then (hay deducted) amount to 17*l.*

If an ox in five months improves only 4*l.* 10*s.* the neat produce of an acre will then be 15*l.*

Lastly, If he improves but 4*l.* the neat produce will be 13*l.*—But to proceed to the other fields.

No. 2. As good as No. 1.

No. 5. That half after oats ranks next.

No. 3. Next best.

No. 4. The next.

No. 5. The other half next.

No. 6. The worst, that is the most backward.

These 26 acres and an half maintained the following cattle;

14 Fat beasts, 20 weeks, at 4 <i>s.</i>	£.56	0	0
14 Milch cows, ditto, at ditto	56	0	0
14 Calves, 20 weeks, at 2 <i>s.</i>	28	0	0
4 Bulls ditto, at 4 <i>s.</i>	-	16	0
Sheep, at different times, when turnips could not be come at for snow	-	20	0
By lean cattle,	-	40	0
By deer in park,	-	40	0
	£. 256	0	0

Which

Which is *per* acre, 9 *l.* 16 *s.* 11 *d.*; but this is the average of all the crops.

Besides cabbages, Mr. *Turner*, this year, has two acres of brocoli upon a clay soil, planted at *Midsummer*, in rows of three feet asunder, the plants two feet from each other; they have been twice horse-hoed, and once hand-weeded: The design of using them was not in expectation of a great weight, but food for sheep in the spring, the two last weeks in *April*: But they turned out very bad.

* * *

In addition to this article, all of which I received from Mr. *Turner* himself, I shall here insert the continuation of the cabbage culture during the year 1769, the particulars of which have been transmitted to him at *London*, by his steward: The most candid method is to give his own words.

“The profits of cabbages in the year 1769, were lowered by a continual drought for four months after planting, and beasts selling at a much lower price than in the preceding year.

We have fed this winter with them,
6 Oxen.

3 Long horned fatting cows.

5 Spayed heifers.

12 Calves.

I 2

25 Long

25 Long horned cows.

8 Long horned bulls.

400 Deer—and a great number of hogs and poultry.

At *Martinmas* the heifers were quite lean; and one of them in particular, only two years old, which would not then fetch 4*l.* in a market, was killed the last week in *February* 1770, and her four quarters, with hide and tallow, made 8 *l.* 8 *s.* The other four heifers have made the same improvement.

The six oxen, and three cows, are now all very fat, although they came lean to the cabbages: We found, upon weighing their food, that the oxen upon an average, eat 14 stone of cabbages, and half a stone of hay each, *per diem*: They will now weigh about 80 stone each. The three cows eat 12 stone of cabbages, and half a stone of hay *per day*. The heifers only 9 stone of cabbages, and 5 *lb.* of hay. The 12 calves eat 5 stone *per day* each, of leaves and offal of the cabbages, that were given to the abovementioned beasts; besides a very little wheat straw; and never calves grew faster, or throve better: They were taken by very good judges for two-year-olds; and far exceed our neighbours of the same age, which are wintered on choice hay and oat sheaves.

The milk and butter of the 25 cows tasted a little; but entirely owing to want of proper

proper care in taking away the decayed leaves, &c.

The deer have very little hay given them; they thrive surprisingly, and are as fine skinned as race horses.

The swine all thrive extremely well on them, as well as the poultry of different kinds.

The quantity, 36 acres; and they yielded in the whole, as follows:

14 Fat beasts, 20 weeks, at 4s	£. 56 0 0
25 Milch cows ditto, at ditto	100 0 0
12 Calves ditto, at 2s.	- - 24 0 0
8 Bulls ditto, at 4s.	- - 32 0 0
400 Deer ditto, at 6d.	- 200 0 0
	£. 412 0 0

Which is *per acre*, 11l. 9s."

Upon this account I must remark, the particular importance of deciding the proportions between given stocks of cattle, and quantities of cabbages; a point which here appears to be very accurately determined. Oxen of 80 stone eating 14 stone *per day*, and fatting in four months, eat in the whole fatting, 9 tons, 16 cwt. of cabbages, and 7 cwt. of hay.

Heifers of the true *Lancashire* breed, worth 8l. 8s. fat, eating 9 stone *per day*, and fatting in three months, eat in the whole, 4 ton, 14 cwt. of cabbages, and three cwts. and a half of hay.

Year old calves eating 5 stone a day, during a winter of six months, eat in the whole, 5 ton 5 cwt. each.

From hence any person, knowing the quantity of his cabbages, may proportion his stock to them: or knowing the number of his stock, may proportion his crop to them. Such knowledge is true experience.

But here are particularized some points before utterly unknown; cabbages completely fattening oxen of 80 stone! This I never heard before: Beasts of that large size were usually put to cabbages after a summer's grass; but here we find them put to them *lean*. This is very remarkable; and proves, if any thing can, the great importance of this food.

One of the heifers put lean to the cabbages, was worth just 4*l.*; fat it yielded 8*l.* 8*s.* It was 14 weeks fattening, and eat (at 9 stone a day) 5 tons 9 cwt. and 74*lb.* of cabbages, and 4 cwt. of hay.

Profit on the heifer,	£. 4	8	0
Deduct 4 cwt. of hay, at 2 <i>s.</i>		0	8

Profit clear	-	-	-	£. 4	0	0
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This is the sum paid by 5 ton 9 cwt. of cabbages; or 14*s.* 7*d.* *per* ton: This is one of the most important pieces of intelligence that could be given: Would but the cultivators of cabbages decide by similar experiments,

experiments, the value *per* ton in every application of the crop, the average of all, would be the general and determinate rule for valuing the crop.

There is not so great a difficulty in the whole range of experimental husbandry, as the valuation of crops that do not yield a certain market value; corn and pulse, and hay, near great cities, have always a decisive value; but all sorts of roots—cabbages—artificial grasses—&c. &c. have no such value, and depend entirely on the accuracy of the experimenter.

Further, we here find that the loose and offal leaves of the cabbages are better food for year old calves, than hay and oat sheaves: I leave to every one to judge of the importance of such a plant, from this circumstance.

The expences of cultivating cabbages have been to Mr. *Turner* as follow.

Upon a summer fallow:

Two years rent	-	-	£. 1	10	0
Seven ploughings, at 4 <i>s.</i> 6 <i>d.</i>			1	11	6
Planting	-	-	0	4	6
N. B. Five women plant an acre in a day.					
Two horse-hoeings	-	-	0	4	6
Carry over	-	-	3	10	6
I 4					

Brought over	-	-	3	10	6
N. B. One plow does two acres a-day.					
Two hand-weedings	-	-	-	0	5 0
					* £. 3 15 6

Upon a winter fallow.

Rent	-	-	-	£.	0	15	0
Four ploughings	-	-	-		0	18	0
Planting	-	-	-		0	4	6
Horse-hoeing	-	-	-		0	4	6
Hand-weeding	-	-	-		0	5	0
					2	7	0

The seed and fowing too inconsiderable to divide.

The variation of fallowing, does not, in all cases, produce an apparent difference of crop, because it is only practised when the land is either very poor or much exhausted; in which case the summer fallowing undoubtedly deserves universal imitation. A summer and winter fallow, and so excellent a fallow as cabbages, certainly are sufficient

* Mr. Turner never watered but once, as he finds the practice quite useless; but if it is done, the expence is 2s. 11d. per acre. A man, a horse, and a water-cart (the water near) 2s. 6d. and ten women, 3s. 4d. These will do in a day two acres.

to bring land into heart. With a summer fallow, the general account stands thus :

Produce.

Average crop of 1768	-	£.	9	16	11
ditto, of 1769	-		11	9	0
Mr. Hewit, the tenant's crop *			21	9	6
Fattening five oxen,	-	-	24	10	0
			67	5	5
Average	-	-	-	16	16
Expences	-	-	-	3	15
Profit	-	-	-	13	0

After a winter fallow.

Produce	-	-	£.	16	16	4
Expences	-	-		2	7	0
Profit	-	-	-	14	9	4

This very ingenious cultivator's ideas of the cabbage culture in general, are these : That the great and indisputable utility of them is so clear, that they cannot fail of becoming a part of common farming, and in all probability of turning out as beneficial to individuals in particular, and to the nation in general, as ever turnips have done : That they thrive in their utmost perfection

* See page 123.

upon

upon land totally improper for turnips, strong clays; in soils that oblige the farmer to depend totally upon hay and young grass for the winter and spring provision of his cattle; that confine him to the common fallows, without the extraordinary profit of fallow crops.

Thirdly, That cabbages are a very certain crop, that may in the largest concern be fully depended on for the most numerous stocks of cattle; turnips not being of near the certainty, from the attacks of the fly, and the accidental failing of the seed.

Fourthly, That cabbages are of very great consequence even upon turnip-farms; for the expence of providing a nursery-bed of plants, ready to prick into the turnip-fallows, in case of a failure of that crop, is so very inconsiderable, and the profit so immense, in case of such failure, that no sensible and unprejudiced farmer, once acquainted with the culture, would ever be without such a *succedaneum* to answer unforeseen calls.

Fifthly, That cabbages, for all sorts of cattle, both lean and fat, are superior to turnips; go much farther, yielding a fourth more in weight, and both feed and fatten them better.

Sixthly, That cabbages, he has found by constant experience, prepare the land for spring-corn much better than turnips, or even a fallow.

But this gentleman's culture of cabbages, has had other effects, which prove strongly the value of the plant. Mr. *Hewit* (one of his tenants) in *October* 1768, sowed some cabbage seed. In *May* 1769, he planted a field of two acres and an half with them. On the first of *December* he began eating them with 30 beasts; oxen; milch cows; two-year-olds; and year olds: And the two acres and an half lasted them 12 weeks: They had a little wheat straw, but no hay. This is a vast produce, and infinitely beyond what any turnips I have ever seen, would do. Product as follows:

	<i>l.</i>	<i>s.</i>	<i>d.</i>
12 Milch cows, 12 weeks, at			
3 <i>s.</i> 6 <i>d.</i> - - -	25	4	0
30 Oxen, ditto, at ditto - -	6	6	0
4 Three-year-olds, ditto, at 3 <i>s.</i>	7	4	0
6 Two-year-olds, ditto, at 2 <i>s.</i> 6 <i>d.</i>	9	0	0
5 One-year-olds, ditto, at 2 <i>s.</i>	6	0	0
	53	14	0

Or 21*l.* 9*s.* 6*d.* *per* acre. An amount which shews how immensely cabbages will answer in the hands of a *common* farmer.

The SECOND grand point of Mr. *Turner's* husbandry, has been the introduction of clover. The farmers throughout *Cleveland*, have, to this day, rejected the use of that noble vege-

vegetable ; notwithstanding their possessing a fine rich clay soil, which reason tells one, would produce vast crops of it. This gentleman has introduced the use of it with the same spirit he exerts in all his views : He has sown it upon large tracts of land, and with great success. One experiment, in which he was accurate, is highly worthy of insertion.

A field, containing 13 acres of clover, and three acres in a border of very bad natural grass, was sown with clover, among the crop of last year : This year it has flourished greatly, and yielded the following produce.

From *Ladyday* to the middle of *May*, it kept 80 sheep and six young cattle. At old *Midsummer* it was mown for hay, of which it yielded as much as was worth 20 *l.* at the stack. After this it maintained 100 sheep and 20 oxen, two months ; 16 cart horses, three weeks ; two mares and two foals, a fortnight ; and 60 sheep, six weeks. This may be valued as follows :

Hay	-	-	-	£. 20	00
Keeping 80 sheep seven weeks, at					
3 <i>d.</i> per week	-	-	-	7	00
— six young cattle, ditto, at 9 <i>d.</i>				1	11 6
— 100 sheep, two months, at					
3 <i>d.</i>	-	-	-	10	00
— 20 Oxen, ditto, at 1 <i>s.</i> 6 <i>d.</i>				12	00
Carry over	-	-	-	50	11 6

Brought over	-	£. 50	11	6
Keeping 16 cart horses, three weeks, at 1 s. 6 d.	-	3	12	0
—two mares and two foals, two weeks, at 2 s.	-	0	8	0
—60 sheep, six weeks, at 3 d.	-	4	10	0
Total		59	1	6
The most that I can deduct for the three acres of bad grafs is		2	0	0
Remains for the clover		57	1	6

Or 4 l. 7 s. 9 d. *per* acre.

This farm was only rented a year ago at 9 s. an acre ; let us therefore continue the account.

Expences.

Rent	-	£. 5	17	0
Seed and sowing	-	2	0	0
Mowing, making, and stacking the hay, at 5 s. an acre	-	3	5	0
		11	2	0

This deducted from the produce

£. 57, there remains clear profit 45 19 6

Or 3 l. 10 s. 9 d. *per* acre. If this experiment does not prove the value of clover, nothing can ; but the general use of it in so many parts

parts of the kingdom, shews the justness of the idea too clearly, to want any particular instances for general imitation: But to the farmers of those tracts of country that have not yet adopted the culture, such instances cannot be too strongly impressed.

The THIRD object of Mr. *Turner's* oeconomics, has been the improvement of the breed of cattle. *Cleveland*, though abounding with kinds which are good on comparison with several counties, yet did not the breed satisfy that gentleman, while better were to be had. An emulation, if I may so express it, highly laudable.

N. B. The breed of horned cattle common in this country, is the short horned kind, called the *Holdernefs* breed improperly;—but really the *Dutch* sort: These cattle feed to vast weight, but he thinks them less profitable, both for the breeder, the dairy, and the grazier, than the true *Lancashire* breed.

These are not mere conjectures, but in some measure are founded on experiment; for, in respect of milch cattle, two trials were made.

From 52 quarts of milk, given by the long horned cows, a cheese was made 3 *lb.* larger than another made from 58 $\frac{1}{2}$ quarts of milk given by the short horned cows.

From 22 quarts of cream, from the milk of the long horned cows, 20 *lb.* of butter

were

*
shire,
the l
a cow
1768
week
The
7s.

were made, 22 ounces and an half to the *lb.* But from 20 quarts of cream of the short horned cattle only 15 *lb.* were made.

These two experiments are certainly, as far as they extend, conclusive.

Mr. *Turner* did not procure a dairy of the true *Lancashire* * long horned cows, without much trouble and great expence; for the great repute that breed has been in of late years, among the capital breeders of stock, has made the genuine breed sought after, and the pedigrees searched into, almost with as much attention as those of race horses. His first bull was given him by the late Sir *William Lowther*; and he has now 15 cows, that cost him 20 guineas each; and to shew the value of this breed for the purpose of breeding bulls it may not be amiss to remark, that Mr. *Turner* was offered 60 guineas for two of these cows by the most famous stock-breeder perhaps in *England*, Mr. *Bakewell* of *Ditchley*, near *Loughborough* in *Leicestershire*.

* The *Derbyshire* breed, is a bastard sort of *Lancashire*, and for mere milking is perhaps as profitable as the best. Mr. *Hird* (this gentleman's steward) had a cow of the breed between both, which, in *September* 1768, gave 13 quarts of milk each meal, which in one week produced 9 *lb.* 4 *oz.* of butter at 20 *oz.* per *lb.* The skin of her calf weighed 18 *lb.* and was sold for 7*s.* This calf weighed 22 *lb.* per quarter.

The principal arguments used in favour of the long horned cattle, in preference to the short horned breed, are these *.

First, In fattening, they feed much faster and better than other cattle; require less grass in quantity, than the short horns, and will do upon much worse; but upon the best of pasture they will thrive to greater profit.

Secondly, A dairy of this breed may be maintained upon worse grass, and less of it, than one of short horns, and at the same time give a greater quantity of butter and cheese.

Thirdly, It is asserted, that there is 20 l. difference between wintering 30 short horned beasts or cows, and 30 long horned ones.

Fourthly, The advantage of breeding very fine bulls of great value, is on the side of the long horns.

* This gentleman's short horned beasts are, however, very perfect in their kind; witness an ox seven years o'd killed at *Kirkleatham*, October 28, 1767, weighing as follows, (bred from a Scotch kily of Lord *Cassillis* breed, and got by a *Holderness* Bull.)

	Stone.	lb.
4 quarters,	129	9
Head,	3	5
Tongue,	0	12
Feet,	2	12½
Tallow,	21	8
	158	4½

In the breed of sheep, this gentleman has been likewise curious; the common *Cleveland* kind is the long leg'd *Teeswater*, which though of a great size, are reckoned neither of a good make, nor so advantageous in their wool as some other sorts. This induced him to procure a very fine breed, partly of the *Lincolnshire* kind: Short leg'd, broad backed, and carrying fine fleeces; from 140 of them he last year cut 76 stone of wool, which he sold at 10 s. 6 d. a stone. His tups gave 14 or 15 lb. each.

FOURTHLY, Mr. *Turner* has made it a maxim of conduct to increase the population of his territory as much as possible; and for this purpose he acts diametrically opposite to the vulgar ideas impressed by those efforts of barbarism, the poor laws of this kingdom: Instead of quarrelling with other parishes to see who should be troubled with the fewest poor, he endeavours by all means to increase the number in his, by receiving all who come, that can and will work, and as fast as the old cottages fill he builds new ones. It is his constant practice to employ all that offer for work, and to keep them at it regularly: But the idle strolling part of the poor that can work, but will not, he has a little mercy on; but is sure to punish them in such a manner as the law allows in his acting capacity of a justice of the peace.

Nor is this the only method he takes of increasing the population of his neighbourhood; he takes every year a number of the boys from the foundling hospital at *Ackworth*, in this county, and binds them apprentices to his tenants, to be taught the practical part of husbandry. All this forms an enlarged and enlightened system of politicks, very far removed from the pernicious practices of nine tenths of the kingdom. It is observable, that the poor rates of his villages, have by no means increased since this plan has been adopted.

FIFTHLY, I should remark, that the general plan and tendency of this spirited cultivator's husbandry is to keep constantly in his hands a large tract of land; he takes the worst first, and improves it by every means: If the buildings are in bad condition, he raises new ones; throws the farms regularly around each; lays the fields into regular shapes; brings the fences into good order;—fallows the worn out lands, and throws them into such beneficial courses of husbandry, by means of cabbages and clover, as in a few years to bring them into proper order for laying down with grasses; which he accordingly executes, and leaves a small part in tillage. Then he lets the farm, and takes another into his hands to manage in the same manner; by which means

means his estate, in a few years, will be a garden.

Besides these general designs, this gentleman has tried some particular experiments, which I shall next give some account of.

In 1767, he cultivated six acres of carrots in a field, the soil of which was part a white sand, and the rest a black and richer sort. It was summer fallowed, and sown in the broad-cast manner the beginning of *April*. They came up very regularly, were hand-weeded in about five weeks, and three times afterwards. They were also hand-hoed, with hoes three inches wide, but left so near as from three to four inches, in which manner they stood till taken up: This was about *Michaelmas*: They were dug up with three and four pronged forks. Their size in the black sand was from six to eight inches long, but less than a man's wrist. In the white sand they were not above five inches long, and not so large as the others. The crop was given to milch cows, and hogs; the cows were very fond of them, and their milk received no ill taste. Several hogs, porkers of six stone, were fatted on them: No pork could be finer, they fatted quick and exceedingly well: The carrots were given raw. As to the expence, the weeding, hoeing, and taking up, cost 15/.

It should be remarked, that no positive conclusions of the profit of carrots are to be drawn from this trial, on account of their being left so very near each other: Carrots should be set out at a foot asunder at least, otherwise the loss is very great; but it is a point of consequence to know on trial, that raw carrots will fat hogs well.

Potatoes he has this year cultivated on a large scale, with very great appearance of profit. They were planted after the above mentioned crop of carrots, the middle of *April*, and first week in *May*, in rows three feet asunder, and 12 inches from plant to plant, and covered by the plough; the large potatoes were sliced, the small ones not. They were horse-hoed once, and hand-hoed once; besides two hand weedings. I took up several before they were arrived at their full growth, and calculate from them, that the average weight *per* plant, was 1 lb. 8 ounces. Each plant in this method of setting, takes up three superficial feet; and as there are 43,560 in an acre, the number of plants is consequently 14,520, and the total weight 9 tons 14 cwt. which at 56 lb. the bushel, makes 588 bushels in an acre; and these at 1 s. 6 d. a bushel, amount to 43 l. 18 s.; at 1 s. a bushel to 29 l. 8 s. which certainly makes potatoes an article of very great consequence. But as the whole

crop for one

crop was not actually measured, some may possibly imagine, that chance threw us upon particular good plants. Accident might possibly occasion small variations, but I am confident not of any consequence: However to give a striking allowance, let us *suppose* the crop at 1 *lb.* each, the product at 1 *s.* 6 *d.* a bushel, will then be 29 *l.* 6 *s.* and at 1 *s.* 19 *l.* 12 *s.* which are crops of so large an amount as cannot fail to prove the immense consequence of this root.

Besides this experiment, Mr. *Turner* has this year another piece of ground in potatoes; a very rich black loam well manured. I dug up several of these plants, and with great accuracy in chusing and weighing; and taking the average, found the medium weight, *per plant*, to be 4 *lb.* 8 oz. They were planted in beds 4 feet wide, with alleys of two feet, and three rows on each bed; the plants 18 inches asunder, this gives 29 tons 3 cwt. *per acre*, or 1166 bushels, which at 1 *s.* 6 *d.* amount to 87 *l.* 9 *s.* or at 1 *s.* to 58 *l.* 6 *s.* An immense product for a single acre, and which confirms the notion not uncommon near *London* of potatoes sometimes yielding 100 *l.* an acre. If any husbandman will be at great expence in manuring, tilling, cleaning, &c. I apprehend there is no crop in the world so profitable as potatoes; 10 *l.* laid out in dung for one acre of land sounds a vast expence;

but with judicious management, those ten pounds would undoubtedly produce great profit in the culture of this beneficial root.

Lucerne Mr. *Turner* has cultivated some years; particularly three rood, upon a rich loam. It was sown in 1765, (succeeding cabbages) in equally distant rows, 10 inches asunder. It was hand-hoed three times the first year, and afterwards sufficiently to keep it free from weeds. In 1766, it was cut five times. In 1767, five. In 1768, four. And from observations accurately made, it is apprehended, that it would maintain at the rate of four cows *per* acre.

This spirited cultivator's *general* practice, consists in many improvements on the common methods; these will appear from the following sketch.

His course of crops is,

1. Sowing down with red clover among the corn crop on the land he takes into his hands, whether wheat or spring corn. This he eats the succeeding year, till the middle of *May*, mows it about old *Midsummer*, and eats off the eddish.
2. Generally winter and summer fallow.
3. Another winter fallow for spring corn to lay down with; or for cabbages: If the former, then

4. Spring

4. Spring corn ; and with it white clover
Hitherto generally alone ; never with
hay feeds, upon account of the feeds
of weeds : Proposes separated grafs
feeds, for which purpose a nursery is
provided *.

If cabbages follow, then it is,

4. Cabbages

5. Spring corn

6. Clover

7. Wheat.

Which crops undoubtedly form an
excellent course for strong lands.

For wheat, he ploughs (clover land) once,
sows one bushel *per* acre, and reaps on an
average 20. For barley, he ploughs thrice,
sows one bushel, and gains on an average,
four quarters besides screenings. For oats,
he ploughs once, twice, or thrice, sows four

* One field of nine acres was ploughed in *October*,
and winter fallowed. In *May* sown with buck-wheat,
which was ploughed in in *August*, after which it
received two ploughings more, and was sown in *September*
with meadow fescue and white clover. This
is an important trial, and the result will doubtless prove
the necessity of laying land to grafs in this manner.

Mr. *Turner*, after a variety of experiments on laying
down land for grafs, prefers sowing the feeds the mo-
ment they are threshed out in *July*, believing, that
one half of the quantity will then do. He annually
employs children to gather the best sorts out of the fields
for this purpose, and has always kept two of his best
meadows clean weeded for the same use.

busbels and an half (but proposes to try a smaller quantity) and reaps from four to seven quarters; got this year six quarters. In 1767, three acres in a nine-acred field was ploughed between *Christmas* and *Candlemas*. The 25th of *March* ploughed two acres of ditto again; the other six ploughed only at sowing—the whole together. The two acres produced seven busbels and an half *per* acre, more than the rest. The one acre was sooner ripe; not quite so good, but very full of weeds; the six acres the worst.

Turnips he cultivates in but small quantities; but for those he sows he makes the land perfectly fine, by ploughing four, five, or six times, as the season requires. He hand-hoes them twice, and hand-weeds them thrice more or less, but so as to keep them perfectly clean; by this management, the average value of his crops is 4 *l*.

On experience he is much inclined to prefer drilling this crop: the expence of hand-hoeing is great, not less than 10*s*. *per* acre: Now the expence of cleaning in the drill method is not a sixth of that, and the turnips have proved larger and better.

Rape he always sows on breaking up old pastures over-run with rubbish; pared and burned, and sown on one ploughing. Sometimes he feeds it, but does not then take a crop: when it stands for seed he gets at an average 40 busbels. Wheat succeeds it.

Winter

Winter vetches he cultivates on a large scale. In Autumn 1768 six bushels were sown upon four acres of clover lay. In 1769 reaped from them 114 bushels, besides a considerable quantity devoured by the pigeons. At the same time sowed ten bushels on seven acres of oat-stubble, they succeed well, and from the 25th of *March* to the 15th of *May* maintained 60 ewes with double the number of lambs: this gave a noble manuring to the land, which was after that prepared for and planted with cabbages. It is from this experiment evident that winter-vetches answer extremely well as spring-feed for sheep; from the 25th of *March* to the 15th of *May* is the most pinching time in the whole year.

In autumn 1769, 60 acres were sown with these vetches, and in March 1770, were as green as a good after-grass field: and ready to be fed with sheep and lambs. This husbandry is gaining two crops a year; vetches sown at *Michaelmas* and eat off in the spring: and cabbages then planted.

In manuring his fields he is particularly attentive, and spares no expence to render all his lands, as good as possible. Lime, the common manure of the country, he uses in large quantities; lays on two chaldrons *per* acre at the expence of 12 s. *per* chaldron. Kelp ashes, he procures at all opportunities; a ship load of
50 tons

50 tons arrived while I was at *Kirkleatham*: They are 18 bushels to the ton; and 40 the quantity for an acre; the improvement by them very great. Buck-wheat for ploughing in, Mr. *Turner* has tried with much accuracy; he ploughed in nine acres the middle of *July*, in three divisions. The first, a wheat stubble; the second, a pea stubble; and the third, fallow: All three winter fallowed, and sown the middle of *May*. It was five times ploughed after the buck-wheat, and laid down with 6 *lb.* of white clover, and one bushel meadow fescue, *per* acre.—The result was, that the fallow part was much the best—the wheat stubble next—and the pea stubble much the worst.

Dungs of all sorts with lime, earth, &c. &c. he makes heaps of; and after carefully turning them over, and mixing well together, spreads the compost on his grass lands.

And to this I should add a fresh instance of the spirit with which he prosecutes his husbandry: In the spring of 1770 he bought one hundred and sixty-five pounds worth of woollen rags at *London*, and freighted two ships with them to *Kirkleatham*.

Cabbages and straw, are the winter food of his cows; his calves he feeds with new milk for 14 or 20 days, and then skim milk for three months. His milk cattle are kept in the house all winter.

This

This gentleman's profit by sheep is considerable; as may be judged by his setting his two year olds at 43*s.* each, and from 76 stone of wool (18*lb.*) being the produce of 140. He keeps them through winter upon turnips and cabbages; a few of the latter, he gives to his ewes in lambing time.

All his tillage is performed at the rate of two oxen and one horse *per* plough, with a driver; and an acre the common amount of a day's work: His allowance to his horses of oats is, one bushel *per* horse *per* week the year round. His oxen are, in winter, fed on straw, and worked on it: They are reckoned by this gentleman, who is so attentive to all branches of country business, much more profitable than horses; insomuch that he earnestly recommends them to all industrious husbandmen who think it requisite to attend to every advantage; for this is not the least. His arable fields he constantly ploughs up as soon after harvest as possible; and before *Christmas* stirs twice. If the weather proves dry, he fallows all winter: His common depth is four inches, but is trying to gain a greater.

Among other maxims of husbandry, Mr. *Turner* pursues two which he apprehends to be of great consequence; first to keep all cattle out of grass fields in the winter and spring; and secondly, to lay no manure on arable land; and in particular
to

to manure the new laid fields thoroughly well the first year, which he calls facing.

The state of this gentleman's farm, is as follows ;

16 Horses	30 Hogs
8 Draught oxen	8 Ploughs
30 Cows	3 Waggon
36 Young cattle	15 Carts
14 Fattening beasts	22 Labourers
170 Sheep	7 Servants.

The fields of which his farm at present consists, are as follow :

Arable.

<i>Fields.</i>	<i>Acres.</i>	<i>Crops 1769.</i>	<i>To be in 1770.</i>
N ^o . 1.—14	2	33—Cabbages &c.	—Oats.
2.—4	2	0—Oats	—Oats.
3.—12	2	16—Pease	—Clover.
4.—6	1	0—Wheat	—Clover.
5.—0	2	0—Lucerne	—Cabbages.
6.—7	1	0—Fallow	—Barley.
7.—9	0	1—Fallow	—Lucerne.
8.—18	0	2—Turnips and Cabbages	} { Turnips & Cabbages.
9.—23	2	28—Fallow	—Wheat.
10.—15	0	27—Fallow	—Wheat.
11.—10	3	10—Oats	—Rape.
12.—26	2	25—Wheat and Vetches	} —Fallow.
13.—13	3	0—Wheat	—Clover.
14.—12	1	20—Clover	—Barley.
15.—13	1	5—Fallow	—Barley.
16.—9	2	0—Clover	—Wheat.

<i>Fields.</i>	<i>Acres.</i>	<i>Crops 1769.</i>	<i>To be in 1770.</i>
N.17.—	8 1 20	—Rape	—Wheat.
18.—	14 3 0	—Clover	— { Vetches and then Cabb.
19.—	6 1 18	—Rape	—Wheat.
20.—	9 2 0	—Clover	—Wheat.
21.—	15 0 3	—Rape	—Oats.
22.—	11 0 20	—Pease	—Rape.
23.—	10 1 0	—Wheat	— { Vetches and then Cabb.
24.—	9 3 22	—Beans	—Ditto.
25.—	11 2 14	—Buck-wheat	—Ditto.
26.—	13 3 0	—Fallow	—Ditto.
27.—	11 1 12	—Fallow	—Wheat.
28.—	10 3 38	—Pease	—Fallow.
29.—	18 2 0	—Rape.	—
30.—	14 0 0	—Cabbages & Turnips	— { --Barley.
31.—	10 0 0	—Cabbages	—Cabbages.
32.—	1 2 0	—Fallow	— { Cabbage- Nursery.
33.—	7 1 25	—Fallow	—Wheat.
34.—	10 2 20	—Wheat	—Cabbages.
35.—	10 0 0	—Oats	—Ditto.
36.—	4 0 30	—Fallow	—Ditto.
37.—	2 3 36	—Wheat	—Ditto.

410 0 25

Grass.

<i>Nº.</i>	<i>1.</i>	<i>Acres.</i>		
	1.	————	24	0 0
	2.	————	13	1 20
	3.	————	12	2 0
	4.	————	10	1 0

Nº. 5.

		<i>Acres.</i>		
N ^o .				
5.	————	10	0	0
6.	————	2	1	0
7.	————	5	1	0
8.	————	3	1	23
9.	————	7	0	5
10.	————	4	2	0
11.	————	18	0	12
12.	————	26	2	0
13.	————	6	2	5
14.	————	14	0	28
15.	————	25	3	28
16.	————	3	0	0
17.	————	7	2	0
18.	————	35	0	0
19.	————	145	0	0
20.	————	3	0	0
21.	————	98	0	0
22.	————	20	1	30
23.	————	13	2	0
24.	————	8	0	0
25.	————	0	3	20
26.	————	9	1	37
27.	————	13	2	26
28.	————	5	1	25
29.	————	4	2	10
30.	————	7	1	24
31.	————	7	3	0
32.	————	4	0	24
33.	————	2	2	5
		570	1	2
Arable	—	410	0	25
Total	—	980	1	27

New laid.

Besides a park of 213 acres.

Thos

Thus I have attempted to sketch the outline of the works of this spirited improver.—We have seen him introduce those excellent articles of culture, cabbages and clover—devise and try abundance of experiments in various other branches of agriculture—and greatly improve the breed of cattle.—We have found considerable progress made in rendering the roads from being almost impassable, equal to most turnpikes.—An excellent mansion-house has been erected; five new farm-houses with complete offices; two large inns; four shops and houses; and 14 cottages.—We have seen a large part of a considerable estate taken into his own hands—improved—and re-let. At the same time that all this business has been carrying on, he has kept in his hands a farm of 1000 acres of land.—These, it must be confessed by all, are noble and spirited works—but do they not become astonishing, when you are informed, that all has been executed in less than the short space of three years!

This gentleman is no sooner *convinced* a measure is right, than he *determines*; and he *executes* with as much quickness as he resolves. It is this celerity which *performs* in a year, what so many *talk* of for a century,—and contracts the business of a dreaming life, into the spirited period of a few months!

The

The improvement sketched in these particulars, will be best understood by stating, in the next place, the common management of the neighbourhood.

Land lets from 11*s.* to 15*s.* *per* acre; farms are from 20*l.* to 60*l.* but such as Mr. *Turner* has regulated from 80*l.* to 120*l.* Their courses are,

1. Fallow—2. Wheat—3. Oats.

Another,

1. Fallow—2. Wheat—3. Pease or beans.

Or,

1. Fallow—2. Barley—3. Oats.

They plough five times for wheat, sow two bushels, and reap upon an average 20. For barley they stir six or seven times, sow two bushels or 10 pecks, and gain five quarters *. They give but one ploughing for oats, sow four bushels, and gain on an average 5 quarters. For pease and beans, they stir but once, sow from four to five bushels, broad-cast, never hoe; the crop about 30 bushels. Use them only for horses. They cultivate very few turnips, plough three or four times, never hoe †. The value

* No old land will grow barley nor oats, and till of very late years they had no change in husbandry in the whole country.

† The Rev. Mr. *Williamson*, however, hoes twice, and then weeds the ketlocks out. This gentleman tried an experiment on the quantity of seed barley: one bushel on one acre produced 34 bushels; the rest of the field two bushels, produce 44 per acre.

from

from 2 *l.* to 4 *l.* they are fed off with sheep. They sow a little rape, plough but once, after paring and burning; sow about half a peck, and gain about half a last. They then lime the rape stubble, and sow wheat. They know nothing of clover.

As to manure, their ideas are but imperfect: All they know of farm yard dung, consists in the feeding their cattle with straw; for their hay, they stack about the fields, and never chop their stubbles. They lime every fallow, with about a chaldron and a half *per* acre; cost and leading 12 *s.* a chaldron.

Their method of breaking up grass lands, is by paring and burning; the paring costs 12 *s.* and the burning 8 *s.*

They have tried sea sand in small quantities upon clay; it answers well, but is expensive.

Sea-weed they sometimes use; they either lay it on the land as they collect it; or make heaps of it till rotten; but in general they reckon it best fresh.

Very good grass lets for 25 *s.* an acre; apply it chiefly to dairying, and reckon that one acre is sufficient to carry a cow through summer, but of the common grass at 12 *s.* an acre, two are necessary. In feeding, they reckon five sheep equal to a cow. Their yard dung they are generally obliged to lay on to their grass lands. A milch cow, they

reckon requires more grass than a beast of the same weight.

The product of their cows is 5*l.* per head; they give in the prime of the season 10, 11, or 12 quarts of milk at a meal, or about five gallons a day. In fattening, they reckon a beast of 50 stone, will yield 5*l.* profit, and by breeding cattle from 2*l.* to 3*l.* per head. In winter they feed their cows on straw while dry, but afterwards on hay. Their calves never suck at all. The joist of a cow in summer is from 1*l.* 5*s.* to 1*l.* 15*s.* and in winter 3*l.* The wintering a fat ox, they reckon worth 5*l.*

The size of their flocks of sheep is from 20 to 60; they breed the large *Teeswater*; fat wethers have been sold at 55*l.* a score. The profit per head they reckon from 9*s.* to 13*s.* The keeping through *April*, they value at 1*s.* a head per week. The weight of wool, from 6 to 10*lb.*

In the management of their tillage, they reckon 10 horses necessary for the cultivation of 100 acres of arable land. They use two or three in a plough, two double but three at length; a driver in the first case, but none in the second; and generally plough an acre a day. The expence per horse per annum, 8*l.* The joist in summer, 2*l.* The price of ploughing per acre 5*s.* They know nothing of chopt straw for chaff.

In general, they reckon from two to four rents necessary for stocking of farms.

Land sells, old rents, up to 60 years purchase, others at 35. Tythes are in general gathered, but if compounded, wheat pays 5 s. spring corn 3 s. and grafs from 1 s. to 3 s. Poor rates run from 6 d. to 2 s. 6 d. in the pound real rents, no variation between real and supposed.

The employment of the poor women is spinning of flax: A woman can earn from 3 d. to 6 d. a day; but the children are generally idle till 12 years old; and all the poor drink tea.

The general œconomy of the farms will be seen from the following sketches:

100 Acres in all	10 Sheep
60 Grafs	2 Mares and foals
40 Arable	1 Servant
£. 50 Rent	1 Maid.
3 Horses	
9 Cows	

Another:

180 Acres in all	4 Young cattle
60 Arable	10 Sheep
120 Grafs	2 Men
7 Horses	1 Maid.
13 Cows	

Another:

230 Acres in all	£. 130 Rent
90 Arable	8 Horses
140 Grafs	20 Cows
	40 Sheep

40 Sheep	2 Labourers
14 Young cattle	2 Maids.
2 Men	

A fourth:

100 Acres in all	9 Cows
30 Arable	4 Young cattle
70 Grafs	12 Sheep
£.70 Rent	1 Man
3 Horfes	1 Maid.

Another :

95 Acres in all	3 Young cattle
30 Arable	30 Sheep
65 Grafs	1 Man
£.62 Rent	1 Maid
2 Horfes	1 Labourer.
10 Cows	

Another :

100 Acres in all	10 Cows
40 Arable	4 Young cattle
60 Grafs	10 Sheep
£.70 Rent	2 Servants
3 Horfes	1 Maid.

LABOUR.

As to the price of labour, the variation between the times of peace and war amounts to 100 *per cent.* for the pres for failon makes all the boys in the country be cleared off for apprentices, and the whole by this means drained, infomuch that the work some

sometimes can scarcely be done. Pressing is carried to so infamous a height, that many landmen have been taken out of their beds in the middle of the night.

In harvest, from 1 s. to 2 s. 6 d. *per day*,

In hay-time, 1 s. 6 d.

In winter, 10 d.

Reaping wheat, *per acre*, 5 s.

———spring corn 4 s.

Mowing grass, 1 s. 8 d.

Repairing hedges and ditches, 2 d. to 8 d. a rood.

Thrashing wheat, 3 d. a bushel.

———barley, 1 d. $\frac{1}{2}$.

———oats, 1 d.

———beans, 2 d.

Headman's wages, 12 l. or 13 l.

Second ditto, 10 l.

Boy of 10 or 12, 3 l.

Dairy maids, 5 l.

Other maids, 4 l.

Women *per day* in harvest, from 10 d. to 2 s.

———In hay-time, 8 d.

———In winter, 4 d.

IMPLEMENTS.

iation No waggons.

round A cart, 6 l.

failor plough, 1 l. 5 s.

leared harrow, 1 l. 5 s.

y that ew rollers used, but cost 1 l. 5 s.

wor scythe, 3 s. 6 d.

some L 3 A spade,

A spade, 3 s. 6 d.

Laying a share and coulter, 1 s. 2 d.

Shoeing, 1 s. 4 d.

PROVISIONS, &c.

Bread, - - 1 $\frac{1}{4}$ d.

Cheese, - - 1 $\frac{3}{4}$

Butter, - - 8 $\frac{1}{2}$ ——— 21 ounces,

Beef, - - 3 $\frac{1}{2}$

Mutton, - - 3 $\frac{1}{2}$

Veal, - - 3 $\frac{1}{2}$

Pork, - - 4

Milk, *per* quart, $\frac{1}{2}$

Potatoes, *per* peck, 6

Candles, *per* lb. 6 $\frac{1}{2}$

Soap, - - 5 $\frac{1}{2}$

Labourers house rent, 20 s.

———firing, 1 l. 10 s.

———tools, 2 s. 6 d.

BUILDING,

Bricks, *per* 1000—11 s. 6 d.

Tiles, from 2 l. to 2 l. 10 s.

Oak timber, 1 s. 6 d.

Ash, 1 s. 6 d.

Elm, 1 s.

Soft woods, 8 d.

A mason, *per* day, 1 s. 9 d.

A carpenter, 1 s. 6 d.

In raising farm houses, the work done by
the rood, a brick and an half thick, 3 s.
rood, (seven yards by one) one brick in
thickness, 2 s.

Every

Every thing included, 17*s.* a rood.

The tiles,	-	-	-	£. 2	5	0
Water carriage,	-	-	-	0	3	6
Land ditto,	-	-	-	0	3	6
Work,	-	-	-	0	15	0
Lime and hair	-	-	-	0	5	0
				3	12	0

At *Kildale* near *Gisborough*, another estate of Mr. *Turner's*, there are several variations which deserve minuting. The soil is various, inclosures furrounded by moors; the latter a black peat earth 12 or 14 inches deep, under which is a loose soil of channelly stone; the surface is covered with ling: Other moor land is white, a light sandy soil, and clear of rubbish. The old inclosures let from 18*s.* to 20*s.* an acre, and the new ones taken from the common, from 3*s.* to 5*s.* Farms are from 10*l.* to 100*l.* but generally about 30*l.* or 40*l.*

Their courses,

1. Fallow—2. Wheat—3. Oats.

Another :

1. Fallow—2. Maslin—3. Oats.

A third :

1. Turnips—2. Oats.

They plough four times for wheat, sow two bushels, and reap 20. They sow scarce

L 4

any

any barley; but for oats they stir but once, sow four bushels, and gain five quarters; four quarters they get in their inclosures taken in from the common. For maslin, or for rye, they stir four times, sow six pecks, and gain on the moor-land 27 bushels, and 30 on the best. They plough four times for turnips, never hoe, but get them in value from 2 *l.* to 3 *l.* feed them with sheep.— Rape, they sow on new land, pared and burned, never feed it; the crop of seed they reckoned about half a last; sow maslin or oats after it. Clover has been sown by no one but Mr. *Williamson*, who has, in this culture, followed Mr. *Turner's* example.

Their manuring is in general much the same as about *Kirkleatham*. They lime on every fallow, one chaldron *per* acre: It costs 10*s.* and as much leading.

Good grass land lets at 25*s.* an acre; they turn it chiefly to dairying; the best land, a cow to an acre through summer; but upon other grass, it takes two acres. Sheep they reckon seven to a cow.

They manure their grass well.

The product of a cow they reckon at 5 *l.*; a good one gives five gallons *per* day; and about two maintain a pig. In winter, while dry, they keep them on straw. They never suckle their calves; those which are for the butcher have new milk given them: By
good

good management they drink of themselves without trouble.

The joist of a cow in summer, 1 *l.* 5 *s.* in winter, 3 *l.* They keep them chiefly in the house.

Their flocks of sheep rise from 50 to 500: The sort so poor that both wool and lamb do not together pay 5 *s.* a year. They keep them through winter on the commons, upon the points of the ling; but in sharp weather give them some hay. The wool does not come to above 10 *d.* *per* head.

In their tillage, they reckon three horses necessary for 20 acres of arable land; use two or three in a plough, and do an acre in a day. The annual expence *per* horse, 8 *l.*—The price *per* acre of ploughing, 5 *s.*

From two to four rents to stock farms.

Land sells at 35 years purchase.—Tythes are compounded; wheat 5 *s.* spring corn 3 *s.* and for hay up to 3 *s.*—Poor rates from 6 *d.* to 1 *s.* 6 *d.* in the pound. The only employment from manufactures the poor receive is a little spinning of flax. Tea is drank among them, but not so much as in other parts.

Their method of breaking up old swarth is this; they plough it up in the spring, let it lie so, till the latter end of the year, then sow rye or maslin; after that oats, of which they get fine crops; they then let it lie for grass, without sowing any seeds.

The

The following particulars will shew the
economy of their farms.

162 Acres in all	10 Cows
12 Arable	20 Sheep
100 Grass	6 Young cattle
50 Moorland	2 Men
£.60 Rent	1 Maid.
3 Horses	

Another :

86 Acres in all	6 Cows
10 Arable	10 Young cattle
30 Grass	300 Sheep
46 Moors	1 Man
£.34 Rent	1 Boy
3 Horses	1 Maid.

You must here allow me to finish this
letter ; as I set out to-morrow for the western
parts of *Yorkshire*. I am, &c.

L E T T E R IX.

FROM *Kirkleatham*, I took the road to *Richmond*, by way of *Scorton*: Through *Cleveland* the land continues very good, lets from 10*s.* to 25*s.* an acre; farms small, but the houses all well built of brick and tile. Across the country, to *Scorton*, it grows lighter, and falls somewhat in rent, the average from 7*s.* to 18*s.* About the last place the soil is of several kinds. There is much gravel—loamy gravel—strong loam—clayey, wet, springy land, that will yield no corn till drained. Rents rise from 10*s.* to 15*s.* an acre for the gravels; and from 5*s.* to 10*s.* for the clays. The farms are from 30*l.* to 100*l.* a year. The courses are, for gravels,

- | | |
|------------|------------|
| 1. Turnips | 3. Clover |
| 2. Barley | 4. Maslin. |

Another :

- | | |
|------------|-----------------|
| 1. Turnips | 3. Oats or rye. |
| 2. Barley | |

Another :

- | | |
|------------|------------|
| 1. Turnips | 2. Barley. |
| For clays, | |
| 1. Fallow | 3. Oats. |
| 2. Wheat | |

Another :

Another :

- | | |
|-----------|--------------|
| 1. Fallow | 3. Pease and |
| 2. Wheat | beans. |

For wheat they plough four times, sow nine pecks, and reap from 18 to 22 bushels: For barley, after turnips once, sow two bushels, and gain about four quarters. They stir but once for oats, sow four bushels, and gain large crops: their sort is the large *Dutch* oat; 40 bushels is a common produce. Mr. *Dickenson* had 72 bushels after turnips, on pared and burnt land. They sow but few beans, plough but once for them; sow four bushels and a half, sometimes under furrow, and sometimes over; never hoe; the crop about 20 bushels. For pease they plough but once, sow two bushels, and gain 16. For maslin, after clover, they give but one stirring, sow two bushels, and reap at an average 25. They stir but thrice for turnips, never hoe, and value their crops at a medium at 3*l.* 10*s.* They use them for both sheep and beasts; some few farmers feed them off; but generally draw them on to a grass field for both beasts and sheep. They sow rape on pared and burnt land, but in no great quantities; some feed it the latter end of the year, the crop of seed about 25 bushels: they sow either maslin or oats after it. Clover they sow with barley; mow it once, but do not get above 16 cwt. of hay *per* acre, on account

account of feeding it late in the spring, not knowing what to do with their ewes and lambs. Clover is seldom hired for the summer, but the price has been from 25 s. to 30 s.

As to their manuring, what they make at home arises only from foddering the fold-yard with straw, but never with hay, unless the farm is so wet that cattle cannot eat it in the field. They break up by paring and burning. The cost is,

Paring	-	-	9 s.
Burning	-	-	3 s. to 7 s.
Spreading ashes	-	-	1 s.

Sometimes they lime with it, 70 bushels to the acre; and the improvement upon the whole lasts several years.

Good grass lets for 20 s. an acre; it is chiefly applied to the dairying. They reckon two acres to the keeping a cow through summer; and four sheep to the acre. The chief of their manure is laid on it. The breed of cattle is the short horned kind, which are greatly preferred to the other. Their hogs they fat from 12 to 24 stone.

The product of a cow they reckon at 6 l. a good one gives from 12 to 14 quarts at a meal, or three gallons and an half *per* day: ten keep four hogs: in winter they feed them on hay and turnips, but when dry only on straw and turnips: In winter, a cow is allowed two stone of hay a day till *Christmas*.

From

From *Christmas* to *May-day* three stone a day; in general under two ton. To joist a cow through summer is 35 s. They commonly keep them in the house after calving; but at other times in the fields. The calves they rear suck only six days, but those for the butcher, three weeks or a month.

Suppose the two ton of hay in winter to be	-	-	-	£. 3	0	0
and in the summer	-	-	-	1	15	0
Total				£. 4	15	0

besides the attendance, and hazard: The profit 1 l. 5 s. this is low. It is very remarkable that the profit of cows should in so many places be so small.

In fattening cattle, they calculate the summer profit on a beast of 50 stone at 50 s.

The size of the flocks of sheep is from 10 to 200; and the profit on them they calculate at from 20 to 25 l. a score. The price of wintering is 6 s. upon grass. In the month of *April*, the farmers would give 4 d. a week *per* head for keeping. The medium quantity of wool is about eight pounds.

In tillage, they reckon six horses and four oxen requisite for the management of 50 acres of arable land, but the latter may be turned to fattening after turnip sowing. They use for the first ploughing two oxen

and four horses; but at other times two oxen and two horses; and they in general do an acre a day. When their horses work they generally allow each a peck of oats a day. The annual expence of keeping horses about 6*l.* Their joist in summer 40*s.* and in winter 25*s.* Their working oxen are kept in winter upon straw, and are worked on it; but when hard, have a little hay. Most farmers reckon them more profitable than horses, and yet their number is by no means equal.

Some few farmers, who occupy strong lands, break up their stubbles for fallow before *Martinmas*; others, in the first good weather after *Christmas*. Their depth of ploughing is about five inches.—The price per acre, 5*s.*

They know nothing of chopt straw, by way of chaff.

In the stocking of farms, they reckon that for 100*l.* a year, half arable and half grafs, a man ought to have 400*l.* to do it well; but many will begin with less than 300*l.*

Land sells for about 35 years purchase.

The great tythes are taken in kind.

Poor rates run generally about 8*d.* in the pound. The women and children spin flax, at which the former earn from 4*d.* to 6*d.* a day.

All drink tea.

Estates

Estates are in general large, but there are several freeholders from 20 £. to 200 £.

The farmers carry their corn five miles.

The general œconomy will be seen from the following particulars.

190 Acres in all	8 Fattling beasts
110 Grafs	140 Sheep
80 Arable	3 Servants
£. 100 Rent	2 Maids
6 Horses	1 Labourer
4 Oxen	2 Carts
10 Cows	2 Ploughs.
18 Young cattle	

Another :

180 Acres in all	18 Young cattle
120 Grafs	80 Sheep
60 Arable	2 Men
£. 85 Rent	2 Maids
7 Horses	1 Labourer
2 Oxen	2 Carts
11 Cows	2 Ploughs.

Another :

80 Acres in all	5 Young cattle
50 Grafs	10 Sheep
30 Arable	2 Servants
£. 60 Rent	2 Carts
5 Horses	1 Plough.
5 Cows	

LABOUR.

In harvest, 1 s. 3 d. and milk.

In winter, 1 s.

Mowing

Mowing grafs, 20 *d.* to 2 *s.*
 Ditching, from 4 *d.* to 8 *d.*
 Thrashing wheat, 3 *d.* *per* bufhel.
 ————barley, 1 $\frac{1}{2}$ *d.*
 Head-man's wages, 12 *l.*
 Next man's, 9 *l.*
 Boy of 10 or 12, 4 *l.*
 Dairy, and other maids, 4 *l.*
 Women *per* day, in harveft, 1 *s.* 3 *d.* and
 milk.
 In hay-time, 6 *d.* and ditto.
 In winter, 5 *d.*

PROVISIONS, &c.

Bread - - 1 $\frac{1}{4}$ *d.*
 Cheefe - - 2
 Butter - - 9—22 *oz.*
 Beef, - - 3
 Mutton, - 3
 Veal - - 3 $\frac{1}{2}$
 Milk, - - $\frac{1}{2}$ *d.* a quart.
 Potatoes - 4 a peck.
 Candles, - 6
 Soap, - - 6
 Labourers houfe-rent, 20 *s.*
 Firing, according as they break hedges,
 or 28 *s.*
 Tools, 5 *s.*

BUILDING.

Bricks, *per* 1000, 12 *s.*
 Tiles, 40 *s.*

Oak, 1 s. 4 d. to 2 s.

Ash, 4 d. to 10 d.

Elm, ditto.

Soft woods, 8 d.

A mason, *per* day, 1 s. 6 d.

A carpenter, ditto.

A thatcher, ditto.

Farm houses of stone and tile.

At *Schorton* is an excellent school for the education of boys—the situation dry, healthy, and pleasant—free from the inconveniencies of a town.—The method of teaching the same as at *Eton*. Boys are boarded in a very proper manner for 10 l. 10 s. a year.—The tutorage is 2 l. 2 s. more; and all expences do not rise to 15 l.

From hence, to *Richmond*,* the soil continues good found turnip-land, with numerous crops on it, but none hoed.

* About the town the views are fine.—The situation is romantic and pleasing. Just before you enter it down in the valley to the left, the river winds in a beautiful manner below the hills, and forms a cascade, which enlivens the scene, and has a good effect. In the town, Mr. *York*'s gardens are well worth seeing, as the beauty of the situation is not only naturally great, but much improved by art. Upon a rising ground near the house, is erected a tower, not a bad object in itself, and commands a good view: To the right is seen a fine sheet of the river, under a hanging

Having a few days to spare from observing this part of the country, I was induced to employ it in a little excursion into *Stainmore*, of which I had read such wonders in the life of *John Bunce*. This scheme I executed with peculiar pleasure, as I was fortunate enough to have some clear pleasant days of sunshine, a point of no slight consequence in the viewing prospects.—From *Richmond*, I passed through *Gilling*, in my way, and enquiring after the husbandry of the neighbourhood, gained the following intelligence.

The soil is of several kinds, but chiefly a light loam with some moory clays; lets from

hanging wood, which bearing round towards the left, forms an amphitheatre, terminated to the left by the town, and the old castle on a rising part of it.—Beyond it, a distant prospect: The whole fine.

From this building, a terras skirts a pasture, and from it the scene varies in an agreeable manner. You look upon a pleasing valley, through which the river winds, steep rocky woods on one side, and waving slopes on the other. Soon after you command, through the vale, a large distant hill, the banks covered with hanging wood, and the top cut into corn and grass inclosures. Following the terras you come to an alcove seat, from whence the view is extremely pleasing: To the right the river comes from out a tuft of hill and wood in a most picturesque manner, and

12 s. to 30 s. an acre: Farms rise from 10 l. to 200 l. a year. Their course is,

1. Turnips—2. Barley—3. Oats.

And 1. Fallow—2. Wheat—3. Barley—4. Oats.

They plough four times for wheat, sow 10 pecks, and reap at an average 25 bushels. For barley after fallow they give five stirrings, after turnips one, sow 10 pecks and three bushels, and gain 45. For oats they plough but once, sow five bushels; the crop the same as of barley. Beans they plough but once for, unless on strong clay after wheat, when they stir twice and sow, under furrow, five bushels to the acre broad-cast; never hoe;

giving a fine curve, bends round a grass inclosure, with a cottage, hay stacks, &c. and then winds under the noble bank of hanging wood, which you look down on from the tower. The hills bound the valley most beautifully, and confine the view to a small but pleasing extent. That, scared with rock is a fine object; and the grass inclosures above its steep of wood have an elegant effect. To the left some scattered houses, and the churches, give a termination on that side which varies the prospect.

Winding down the slope towards the river, the views continue very pleasing; as you advance, a little temple (Mr. *Readshaw's*) at a distance in the vale, romantically situated among hanging woods, adds much to the scene. The walk borders the river through a meadow, and leads

medium produce 25 bushels. They use them only for horses. Pease they sow chiefly on poor land after wheat, of the *Scotch* sort, three bushels *per* acre, and of rouncivals four. They gain in return about 16. For rye they plough four times, sow 10 pecks, and gain at an average five quarters. It is asserted by more farmers than one, that 100 bushels *per* acre have been gained of this grain.

They plough four times for turnips, never hoe them, but get them in value from 45 s. to 5 l.; use them for feeding of both beasts and sheep. Rape they only sow after paring and burning, plough once, never feed it, but get half a last of seed. It is generally

to the mouth of a cavern hollowed out of the rock in a proper stile, which brings you to the point of view, on the side of the hill, from which you look down on the river, and opposite on the bank of hanging wood.

Other walks from hence lead to the banquetting-room, which is well situated for commanding a pleasing view of various objects. In front, and to the right, you look into an amphitheatre of hanging wood, and the river winding at its feet. To the left the town spreads over a hill; in one part the castle appears, and below, the bridge over the *Swale*.—The whole is picturesque. The bridge and castle are also seen to great advantage from the corner of the terrace on the banks of the river.

on the moory soil they cultivate it, and sow winter corn after it.

Clover they have done with, for according to their own account it was used till it fouled the land, and seldom came to any thing of a crop. They use some white *Dutch* however. This circumstance of clover being mischievous is very suspicious, and gives much reason to suppose that it was very ill managed.

As to manure, their chief dependance is on lime, of which they lay two chaldrons *per* acre on every fallow, which cost 7 s. 6 d. a chaldron. Their paring and burning is at the rate of,

			s.	d.
Paring,	-	-	12	0
Burning,	-	-	7	6
				19 6 <i>per</i> acre.

Their farm-yard dung is in small quantity, as they never chop the stubbles, and stack their hay in the fields, where they fodder it. Although so near *Richmond* as three miles, yet no dung or other manure is there purchased by the farmers.

Very good grass lets at from 30 s. to 40 s. an acre; they apply both to dairying and fatting: Some of their best ground will carry at the rate of a cow to an acre, but in common it takes an acre and a half.

Five

Five sheep to an acre. They are in general tied by their leascs to lay all their dung on their grafs lands.

Their breed of cattle are the short horned; but the polled sort they esteem most. Their hogs fat to 20 and 25 stone.

The product of a cow they reckon at 5 *l.*; a middling one will give six gallons of milk *per* day; each they reckon will maintain two pigs. Their winter food is in general hay, of which they eat that of an acre a head. Straw is seldom given them without turnips. Their calves they never suckle, if for rearing; but for the butcher three weeks. The summer joist is 30 *s.* the winter 50 *s.* A dairy-maid can manage 12, with help at milking.

In respect to fattening, a beast, which in the spring is bought (as prices have gone of late) at 5 *l.* will sell out of the aftergrafs at 8 *l.* or 8 *l.* 10 *s.*

The flocks of sheep rise from 20 to 200. The profit they reckon at 60 *l.* a hundred. They keep them in winter upon hay and turnips; the joisting price in the latter 3 *d.* a week. To have fat sheep kept through the month of *April* well, they would give 2 *s.* *per* head *per* week. The average weight of wool is seven pounds.

As to the tillage, they reckon that four oxen and eight horses are necessary for the management of 100 acres of arable land.

They use four horses and two oxen in a plough for fallowing; but often stir with three horses, and do in general an acre a day. They allow their horses one peck of oats a day in winter, and half a peck in summer; and reckon the annual expence of a horse at 10*l.* The joist in summer is 40*s.*

The food of their working oxen in winter is only straw; and on that they work them. They reckon them much better and more profitable than horses.—The price of ploughing is 5*s.* the depth they cut generally five inches in good land; and in the other soils three inches. The time of breaking up their stubbles for a fallow is *Candlemas*.

They reckon a farmer should be worth 600*l.* for the taking a farm of 100*l.* a year, half grass and half arable.

Land sells at 35 years purchase. Tythe is both gathered and compounded for: If the latter, wheat generally pays 5*s.* 6*d.* barley, 4*s.* oats, 3*s.* 6*d.* hay, 2*s.*

Poor rates, 8*d.* in the pound. The employment of the poor women and children, is spinning of worsted—and they spend much of their earning, like their neighbours, in tea.

Estates generally run from 500*l.* a year upwards.

Their general œconomy will be seen from the following sketches.

60 Acres

60 Acres in all	6 Cows
20 Arable	6 Young cattle
40 Grass	60 Sheep
£.60 Rent	1 Servant man
4 Horses	1 Labourer.
2 Working oxen	

Another :

400 Acres in all	25 Fattening beasts
80 Arable	28 Young cattle
320 Grass	200 Sheep
£.200 Rent	3 Men
10 Horses	1 Boy
14 Oxen	3 Maids
17 Cows	2 Labourers.

Another :

100 Acres in all	6 Cows
35 Arable	4 Fattening beasts
65 Grass	15 Young cattle
£.80 Rent	200 Sheep
5 Horses	2 Servants
4 Oxen	1 Boy.

LABOUR.

In harvest, 2 s. 6 d. a day.

In hay-time, 1 s. and beer.

In winter, 10 d.

Mowing grass, 2 s. 6 d.

Ditching—3 d. ditching, and 2 d. the hedge, *per rood*.

Thrashing wheat, 3 $\frac{1}{2}$ d. a bushel.

—barley, 1 $\frac{1}{2}$ d.

Thrashing

Thrashing oats, $1 \frac{1}{4} d.$
 Head-man's wages, 12 *l.*
 Ploughman's, 5 or 6 *l.*
 Boys of 10 or 12, are generally apprenticed
 for five or seven years.
 Dairy maids, 4 *l.* to 5 *l.*
 Other ditto, 3 *l.* 10 *s.*
 Women, *per* day, in harvest, 1 *s.* 3 *d.*
 In hay-time, 6 *d.*
 In winter, 5 *d.*

IMPLEMENTS.

No waggons.
 A cart, fix inch wheels, 8 *l.* 8 *s.* to 9 *l.*
 A plough, 18 *s.*
 A pair of ox-harrows, 35 *s.*
 A pair of horse ditto, 16 *s.*
 A stone roller, 5 *l.*
 A wooden ditto, 1 *l.*
 A scythe, 3 *s.* 6 *d.*
 A spade, 3 *s.* 6 *d.*
 Laying a share and coulter, 1 *s.* 6 *d.*
 Shoeing, 2 *s.*

PROVISIONS.

Wheaten bread, $1 \frac{1}{2} d.$
 Cheefe, $2 \frac{1}{2} d.$
 Butter, 10 *d.*—21 *oz.*
 Beef, 3 *d.*
 Mutton, 3 *d.*
 Milk, $\frac{1}{2} d.$ a pint.
 Potatoes, 5 *d.* a peck.

Candles, 6 $\frac{1}{2}$ d.

Soap, 6 d.

Labourer's house-rent, 12 s. to 25 s.

———firing, 30 s.

———tools, 3 s. 6 d.

From *Gilling* to *Greta-Bridge* *, the country is in part cultivated and part not.—

Land lets from 10 s. to 30 s. and farms rise from 20 l. to 100 l. a year.

In *Rookby*, between *Greta-bridge* and the *Bows*, the soil consists chiefly of cold moory land: Gravel, and stony gravel. It lets at

* *Rookby*, the seat of Sir *Thomas Robinson*, just by *Greta Bridge*, is, from several circumstances, worth viewing by travellers. The collection in the house is curious, and the pleasure ground romantic.

In a back arcade, on entering the former, are *Diogenes*. Fine.

In the arcade.

Homer. Very fine.

Destruction of *Niobe's* children. Fine.

Five Virgins, a group. Attitudes and drapery very fine: One would imagine *Guido* had taken from this relief the idea of his Hours:

Claudite ostia virgines lusimus satis.

Catul. Eleg. 59.

Origine in hortis Burghesiis

A small statue of *Hercules*, with the *Nemean* skin.

In the yellow bed-chamber.

Venus and *Adonis*, in the stile of *Rubens*.

Jupiter

from 9 s. to 15 s. an acre. Farms run from 30 l. to 160 l. a year. Their courses are,

1. Fallow—2. Wheat—3. Barley or oats.
- And, 1. Fallow—2. Barley—3. Oats—4. Oats.

They plough four or five times for wheat, sow 10 pecks, and reap about 16 bushels. For barley, they stir the same as for wheat, sow three bushels, and gain on an average 25. For oats they stir but once, sow four bushels and an half, and on swarth five bushels and an half; after the latter they

Jupiter and Danae. Very fine and expressive.
Cardinal Woolsey. Very fine.
Library.

Jupiter and Io. Disagreeable.
Apollo, rewarding Merit, and punishing Arrogance. Good.
Europa. Attitude and drapery good. Colours gone.
Diana and Acteon. Middling; but ditto, the expression of *Acteon* paltry.
Hercules. Fine.
Mercury. Heavy.

Busts.

Paulina. Very fine.
Julia. Fine.

In the chimney-piece, a piece of antique Mosaic. Crimson drawing-room.

Choice of *Hercules.* Expression and colours bad. Two heads in crayons. Admirably fine.

Bass-relief

gain 40 bushels, after wheat 25. Pease they generally sow after wheat; eight pecks the quantity of seed; and reckon the average crop in dry years at 30 bushels, and in wet ones so low as five. For rye they plough four times, sow nine pecks; and gain at an average, on new soils, 60 bushels, but on old scarce 20; however they are seldom sown on such.

They stir four times for turnips, never hoe, but value their crops at an average at 3*l.*; use them chiefly for cows, oxen, and sheep, on the ground.

Of clover they know nothing.

Bass-relief of *Diana*. Attitude and drapery very fine.

Two antique bronzes; *Cerberus* and another.

In the center a model of the horse at *Charing-Cross*.

In the wing of the house is an apartment called the Musæum; where is treasured much learned lumber.

The pleasure ground is romantic, and were it kept in something of order, would be much admired. The tea-room is finely situated on the rocky banks of the *Greta*, raging like a torrent over the rocks. A little below, it joins the *Tees*, under noble rocks of free stone overhung with wood.—Above the room, the other way, are some others on the side of a terras by the water.

As

As to manuring, they lime every third year ; three chaldrons *per* acre, which cost 7 *s.* *per* chaldron.

Paring and burning, which is a common practice, costs them,

				<i>l.</i>	<i>s.</i>	<i>d.</i>
Paring,	-	-	-	0	12	0
Burning,	-	-	-	0	5	6
Spreading,	-	-	-	0	2	0
				£. 0 19 6		

Their hay they feed in the field; and plough in their stubbles.

Good grafs lets at 20 *s.* The best they apply to grazing, and the second best to dairying. Three acres of the best will keep four cows : And they reckon that an acre will keep seven sheep. Their breed is the short horns. The product of one they calculate at 5 *l.* Upon an average they give each four gallons of milk *per* day. And ten will maintain four hogs : When dry in winter they keep them on straw ; but give hay at calving. Some of their calves they do not let suck at all for rearing ; but for the butcher a month, at which age they are generally worth 1 *l.* 1 *s.* A dairy-maid will let herself to seven cows. In the wintering they reckon that every one requires an acre and half of hay. The joist in winter is 30 *s.* and in summer from 20 *s.*

to

to 30*s*. They generally, in the former, keep them in the house.

Their hogs fat up to 30 stone.

The profit on the summer fattening a beast of 50 stone, they calculate at 3*l*. and upwards.

Their flocks of sheep rise from 20 to 300; the profit they reckon at 5*s*. a head. They keep them all winter in the fields, but in snow on hay. They would give 3*d*. a week *per* sheep to have them kept through *April*; no price, considering their own feed is only young grass. The medium weight of wool 7*lb*.

In their tillage they reckon six horses and four oxen are necessary for the management of 100 acres of arable land. They use in a plough two oxen and two or three horses, and do an acre in a day, but if busy, three acres in two days. They allow their horses no oats in summer, and only their screenings in winter. The annual expence *per* horse they calculate at 5*l*. 10*s*. The summer joist is 50*s*. and the winter 3*l*. Their draught oxen they keep in winter on straw, and work them on it. On dry land they reckon oxen better and more profitable than horses, but on wet soils they prefer horses, and in this they are guided by the treading. Their time of breaking up their stubbles is after *May-day*. The price of ploughing 5*s*. *per* acre.
—The depth six inches.

In

In the hiring and stocking farms, they reckon 400 *l.* necessary, for taking one of 100 *l.* a year, half grafs and half arable.

Land sells at 35 years purchase.

Poor rates are 8 *d.* in the pound: the employment of the poor women and children is spinning a little flax and worsted: tea, to my great wonder, is but little drank here.

Scarce any small estates, 1000 *l.* a year and upwards. The farmers carry their corn only three or four miles.

The general œconomy will be seen from the following sketches of farms.

250 Acres in all	30 Young cattle
160 Arable	40 Sheep
90 Grafs	3 Men
£. 105 Rent	1 Boy
7 horses	1 Labourer
6 Oxen	2 Maids.
12 Cows	

Another :

150 Acres in all	6 Cows
130 Arable	14 Young cattel
20 Grafs	26 Sheep
£. 80 Rent	1 Man
4 Horses	1 Boy
4 Oxen	1 Maid.

Another :

272 Acres in all	£. 135 Rent
172 Arable	8 Horses
100 Grafs	6 Oxen
3	20 Cows

20 Cows	2 Boys
36 Young cattle	3 Labourers
75 Sheep	2 Maids.
3 Men	

Another :

72 Acres in all	2 Cows
30 Grass	4 Young cattle
42 Arable	10 Sheep
£.30 Rent	1 Man
3 Horses	1 Maid.
2 Oxen	

LABOUR.

In harvest, 2 s. a day and victuals, but used to be only 1 s. 6 d.

In hay-time, 1 s. and ditto.

In winter, 8 d. and ditto.

Reaping wheat, 7 s. an acre.

Mowing grass, 4 s. 6 d.

—corn and binding, 4 s. 6 d.

Threshing wheat, 2 d. a bushel and board.

—barley, 1 $\frac{1}{2}$ d. and ditto.

—oats, 2 d. and ditto.

Headman's wages, 12 l.

Second ditto, 4 l.

Dairy maid, 5 l. 5 s. to 5 l. 15 s.

Other ditto, 3 l.

Women, *per* day, in harvest, 2 s. and board.

—in hay-time, 1 s. 6 d. and ditto.

—in winter, 6 d. and ditto.

IMPLEMENTS.

No waggons.
 A cart, 12 *l*.
 A plough, 1 *l*. 11 *s*. 6 *d*.
 A harrow, 15 *s*.
 A roller, 2 *l*. 2 *s*.
 A scythe, 5 *s*.
 A spade, 3 *s*. 6 *d*.
 Laying a share or coulter, 1 *s*. 4 *d*.
 Shoeing, 1 *s*. 6 *d*.

PROVISIONS.

Bread,	-	-	15 <i>d</i> . a peck loaf,
Cheese,	-	-	2 $\frac{3}{4}$ <i>d</i> . per <i>lb</i> .
Butter,	-	-	9 ——— 24 ounces,
Beef,	-	-	3 $\frac{1}{2}$
Mutton,	-	-	3 $\frac{1}{2}$
Veal,	-	-	2
Milk,	-	-	$\frac{1}{2}$ <i>d</i> . a pint,
Potatoes,	-	-	4 $\frac{1}{2}$ a peck,
Candles,	-	-	7 per <i>lb</i> .
Soap,	-	-	7
Labourer's house rent,			5 <i>s</i> .
————firing,			50 <i>s</i> .
————tools,			3 <i>s</i> . 6 <i>d</i> .

After leaving *Greta-Bridge*, in the way to *Bows*, from the rising hill, the prospects are very pleasing for a few miles, over beautiful variegated inclosures, bounded by hills,

From *Bows* I took the road to *Bernard Castle*, in my way to the fall of *Tees*, the greater

greatest natural curiosity in this part of the world *. To that town the soil is chiefly uncultivated, and the country open.

The grass inclosures in the vales at *Middleton*, let at 25 s. an acre. Farms rise from 20 l. to 80 l. a year. About *Newbiggin*, are many improvements of moors by that spirited cultivator the Earl of *Darlington*: Parts of the moors have been inclosed by that nobleman, which used not to yield a farthing an acre rent; but upon inclosing, and then paring, burning, and liming, sow-

* Leaving *Bernard Castle*, towards *Eggleston*, the road runs along a steep woody precipice, the border of a long winding valley, with a river meandering through it: You look down on the tops of tall groves, in a manner most exquisitely picturesque. You next come to a romantic valley, lined with steep firs of wood, and a rapid stream winding through it; in the middle, a lofty arch thrown over it, called *Bawther Bridge*.

Pursuing this most beautiful line of country, we next came to *Eggleston*; romantically situated among rocks, steep firs of wood, raging torrents, and cascades, a fine assemblage of the noble touches of nature. Mr. *Hutcheson's* house is sweetly situated in the midst of these rural wonders.

Advancing towards *Middleton*, from the hill before you descend to the village, the most glorious prospect opens to the view, that imagination can picture; you look down upon the left over

ing with turnips, oats and hard corn, and laying down with grafs seeds, have been immediately advanced to 7*s.* 6*d.* an acre, at which rent they now remain. The turnips they get in this manner are very good, but the oats their great crop, and very considerable. They scarce ever lose any crops by not ripening, a notion common in some parts of *Yorkshire*.

To the north, west, and north-west of this country, there are vast tracts of moors covered, some with ling, and others with a

an extensive valley intersected by hedges and a few walls into sweet inclosures, which being quite below the point of view are seen distinct, though almost numberless; the scattered trees, the houses, villages, &c. &c. ornament the scene, in a manner too elegant to admit description. Beneath your feet at the bottom of a vast precipice, rolls the *Tees*, which breaks into noble sheets of water, and throws a magnificence over the scene, that is greatly striking; another river winding through the vale, falls into the master of its current and its name. Together, they exhibit no less than twenty-two sheets of water scattered over the plain in the most exquisite manner; the trembling reflection of the sun-beams from so many spots in such a range of beauty, has an effect astonishingly fine: Elegant beyond all imagination.

After you leave *Middleton*, the eye of the traveller is again feasted with the most luxuriant beauties that inanimate nature can exhibit. The
vales

wild grafs, called white earth, greatly fufceptible of improvement: The very worft of thefe tracts, according to the testimony of the country people themfelves, are capable of being converted into good grafs fields; 7s. 6 d. *per* acre is a very low rent for fuch grafs as I obferved was gained from the moors, fo near fo many other fields that pay 25s. an acre: But even at that fmall rent the vaft benefit of improving is fufficiently manifef: The turnips they get the firft year, I found were generally reckoned to

vales to the left are wonderfully pleafing: In fome places the road hangs over the *Tees* on the brink of wild precipices; in others the river winds from it. The plain is about a mile and an half broad, and furrounded with mountains, fo that the picture is every where complete and bounded: The serpentine courfe of the *Tees* is very fine; it bends into noble fheets of water quite acrofs the valley; and feems to call for the proud burthen of fwelling fails to finish fo complete a fcene.

Nothing can be more pleafing than the numerous inclofures on the banks of the river, clothed with the freffeft verdure, and cut by hedges full of clumps of wood, and fattered with ftragglng trees: The villages enliven every part. From the hills around this paradife, innumerable cafes pour down the rocky clefts, and render every fpot romantic.

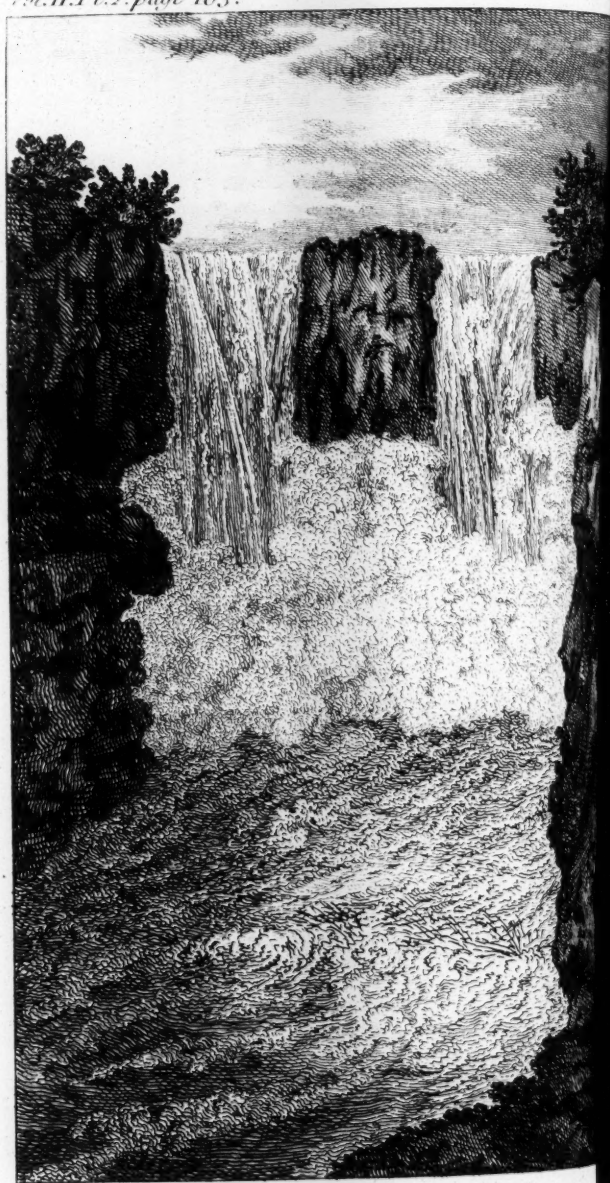
Purfuing your track through this delicious region, you crofs fome wild moors, which contralt

pay for paring, burning, and liming; and the oats which succeed are not only advantageous but *profitable*, for they get four, five, and six quarters an acre. Thus the improvement immediately repays the expences with interest; the walling alone is to be carried to the account of future rent; a trifling matter when named in competition with gaining from wastes and wilds a fee simple of 7 s. 6 d. an acre. Is it not astonishing, that an acre of such land so easily, quickly, and cheaply improved, should remain waste?

the pictures you have beheld, and render those that follow more peculiarly beautiful. After passing *Newbiggin*, you come to a spot called *Dirt Pit*, one of the most exquisite bird's-eye landscapes in the world: It is a small, deep, sequestered vale, containing a few inclosures of a charming verdure, finely opposed by the blackness of the surrounding mountains. It is one of those scenes one would imagine rather the sport of fancy than the work of nature.

Leaving this enchanting region, we crossed a very different country, partaking much more of the terrible sublime, than the pleasing and beautiful: Here you ride through rapid streams, struggle along the sides of rocks, cross bleak mountains, and ride up the channel of torrents as the only sure road over bogs; listening to the noise of the water-fall, which you begin to think tremendous.——Upon arriving at the banks of the *Tees*, where it pours down the rock, steeples of wood prevent your seeing it, but the roar is prodigious.





Where marle, clay or chalk is the manure, several years must elapse before an improvement can be expected to yield any profit, but paring, burning and liming are all performed in this country for a guinea and an half *per* acre, a sum which the turnips, the very first year, more than pay.

Returning to *Bows*, I continued the road to *Brough*—a line of 12 miles, and not more than three cultivated, full nine that yield no profit—scarce that of feeding sheep; and what soil may it be from hence supposed?

prodigious. Making use of our hands as well as feet, and descending almost like parrots, we crawled from rock to rock, and reached from bough to bough, till we got to the bottom under this noble fall. Noble indeed! for the whole river, (no trifling one) divided by one rock, into two vast torrents, pours down a perpendicular precipice of near fourscore feet: The deluging force of the water throws up such a foam and misty rain, that the sun never shines without the appearance of a large and brilliant rain-bow. The whole scene is gloriously romantic; for on every side it is walled in with pendent rocks an hundred feet high; here projecting in bold and threatening cliffs, and there covered with hanging woods, whose only nourishment one would imagine arose from the descending rain.

I attempted a slight sketch of it, but it is far short of the original. See plate II.

Leaving this tremendous scene, I dismissed the guide; and attempting to penetrate further

Surely a most sterile, and unhappy one, totally incapable of all improvement?—But so far is this from the case, that nine tenths of the country is an exceeding fine rich deep red loam—the spontaneous growth tolerable grafs—of a good verdure and scattered with whins. I alighted from my chaise many times to examine the soil; and found from the edges wherever the surface was broken, from 10 to 18 inches, and in some places two feet depth, of a fine crumbly sandy loam, of a good colour, which I am confident

among the mountains lost my way, in passing a straggling wood; a circumstance which would not have proved agreeable, had I not accidentally blundered on a spot, which thoroughly repaid us for all the anxiety of taking a wrong road. We had not traversed many miles over the moors, before a most enchanting landscape, as if dropt from heaven in the midst of this wild desert, at once blessed our eyes. In ascending a very steep rocky hill, we were obliged to alight and lead our horses; nor was it without some difficulty that we broke through a shrubby steep of thorns, briars, and other underwood; but when it was effected we found ourselves at the brink of a precipice with a sudden and unexpected view before our eyes of a spot more enticingly pleasing than fancy can paint.

Incircled by a round of black mountains, we beheld a valley which from its peculiar beauty, one would have taken for the favourite of nature. Half way up the hills in front, many rugged and bold projecting rocks discover their bare points among

would yield as fine carrots as any in the world—and indeed any other crop that industry could venture in it. This I am sure of, that such wastes inclosed, would in *Suffolk* or *Essex*, let at once for 16 s. an acre, without further improvement. Even the very worst land in this line of country is capable of noble improvements; not an acre, but after inclosing, paring and burning, liming and laying down to grass, would let at once for 12 s.—The turnpike keeper in his little garden, which is taken in from the

among thick woods which hang almost perpendicularly over a deep precipice. In the dark bosom of these rocky shades a cascade glittering in the sun, pours as if from a hollow of the rock, and at its foot forms an irregular basin prettily tufted with wood, from whence it flows in a calm tranquil stream around this small, but beautiful vale, losing itself among rocks in a most romantic manner. Within the banks of this elysian stream, the ground is most sweetly varied in waving slopes and dales, forming five or six grass inclosures of the finest verdure. Several spreading trees scattered about the edges of these gentle hills have a charming effect in letting the green slopes illuminated by the sun, be seen through their branches.

A cottage, and a couple of hay stacks under the shade of a clump of oaks, situated in one of the little dales of the valley, give an air of cheerfulness to the scene extremely pleasing.—It is
upon

waste, shews what might be done with this land: He raises excellent potatoes, good garden beans, and admirable turnips. It is a country that calls for industry to inclose: Fertile fields loaded with corn, and giving food to numerous herds of cattle, ought to be the prospect in this tract, not whins, fern, ling and other trumpery! Shame to the possessors!

PROVISIONS at *Brough*.

Bread,	- -	1 s. a half peck loaf.
Cheese,	- -	2 $\frac{1}{2}$ per lb.
Butter,	- -	8 ——— 20 ounces.
Beef,	- -	3 $\frac{1}{2}$
Mutton,	-	3
Veal,	- -	2 $\frac{1}{2}$ d.
Milk,	- -	$\frac{1}{2}$ a pint.
Potatoes,	-	5 a peck.

upon the whole a most elegant landscape, so sweetly proportioned, that the eye commands every object with ease and pleasure; and so glowing with native brilliancy, that the gilding of reality here exceeds even the powers of imagination.

Let me in general remark, that Mr. *Buncke* speaks of 18 miles of delightful ground between *Greta Bridge*, and *Brough by Bows*; most of which country is moors: but the 18 miles from *Bernard Castle*, to the fall of *Tees*, richly merits such an epithet: I never yet travelled a line of country so astonishingly fine; containing so noble a variety: It is a continued landscape, sufficient

Candles, - - 7*d.* per lb.

Soap, - - 6

House rent, 30*s.*

Firing, 20*s.*

From *Brough*, the road, if I may give it that name, to *Askrig*, lies over one continued range of mountains, here called moors. The cultivated vallies are too inconsiderable to deserve a mention. Most of these fifteen miles, however dreadful the road, are tracts of very improveable land; if a good turnpike road was made from *Askrig* to *Brough*, the first great step to cultivation would be over; for it is almost impossible to improve a country with spirit, the roads of which are impassable. It is extremely melancholy to view such tracts of land that are indisputably capable of yielding many beneficial crops, remaining totally waste; while in many parts of the kingdom farms are so

to captivate the most languid observer. A glorious range of mountains, valleys, beautiful enclosures, hanging woods; precipices, torrents, rocks, streams, and cascades.—The whole line is a perpetual hill and dale, thickly strewed with all these romantic glories—you, literally speaking, do not move an hundred yards without being struck with continual waterfalls.—A morning's ride well worth a journey of a thousand miles to travel.—

scarce

scarce and difficult to be procured, that one is no sooner vacant, than twenty applications are immediately made for it. Now the great profit that is made by agriculture, consists in the first cultivation of waste lands, and such farmers as have fortunes sufficient for improving can never turn their attention to such beneficial purposes as hiring wild uncultivated tracts, where much land (whole countries) are to be had for a trifling rent. But as that rank of people are in general much confined in their views, and timorous in their attempts, waste lands are very slowly improved, by being left entirely to their management; for this reason it is much to be wished, that the landlords in these countries would undertake the great, but profitable business of improvement, and repay themselves in the rent: It is every where in this country perfectly well known, that all farms let with the greatest readiness, and that no tract of moor-land can be inclosed and divided into proper fields, broke up, limed, and laid down well with grasses, but tenants in plenty will be ready to hire them; and to give such rents as will amply pay the interest of the sums expended, and leave a noble profit besides. If a landlord has not the cash in hand for such works, let him borrow it, and he will find his profit not short of 10 *per cent* interest paid.

From *Askrig* to *Reeth* and *Fremington*, the country is mountainous, and full of lead mines *; the vales are all grafs inclosures, rich, and let very high.

The soil is in general a rich loam and a red gravel, lets from 20*s.* to 40*s.* an acre:—these grafs farmers occupy from 5*l.* to 60*l.* a year. As to the management, it is, as you may suppose, not very complex.—Their manuring consists chiefly in using peat and coal ashes; the last of which they reckon best on wettish lands.

Their stock is chiefly cows, and horses to carry lead: An acre will in some years keep a cow, but not often: And in some it requires three or four acres. Their breed of cattle is the short horns; and the size of their swine up to 20 stone.

The summer's milk of a cow, is worth 5*l.* 10*s.*; the common quantity four gallons a day. It is all fold; no dairies. In winter the cows food is hay alone, of which they eat an acre and half *per* head. They suckle their calves a week for killing; but

* In which many hundreds of people are employed; the men earn at an average about 1*s.* 3*d.* a day; the women 1*s.* and boys and girls from 4*d.* to 9*d.*: But the day's work finishes by twelve, or one o'clock, after which no bribes are sufficient to tempt them into the farmer's service, in the busiest times, not even for an hour.

not at all for rearing.—The summer joist is 35 s.

Their flocks of sheep rise as high as 500, by means of turning on the moors: The profit they reckon at 10 s. a head; they keep them all winter and spring on the moors, but give them hay in deep snows. The average fleece of wool, three pound and an half. Land sells at 30 years purchase. Tythes generally gathered.

Poor rates 1 s. 3 d. in the pound. They are all employed, either in the lead mines or in knitting. All drink tea.

Many estates from 10 l. to 200 l. a year.

LABOUR.

In hay-time, 6 d. and board.

In winter, 1 s.

Mowing grass, 20 d.

Headman's wages, 8 l. 10 s.

—next ditto wages, 7 l.

Boy of 10 or 12 years, 50 s.

Maid servants, 4 l.

Women *per* day, in hay-time, 4 d. and board.

IMPLEMENTS.

A new waggon, 14 l.

A cart, 4 l.

A plough, 1 l. 4 s.

A harrow, 18 s.

A scythe,

A scythe, 4*s*.
A spade, 4*s*.
Shoeing, 1 *s*. 4*d*.

PROVISIONS.

Bread, various kinds.
Cheese, - - 2 $\frac{1}{4}$ *d*.
Butter, - - 8 ——— 22 ounces.
Beef, - - 3
Mutton, - 3
Veal, - - 3 $\frac{1}{2}$
Pork, - - 3 $\frac{1}{2}$
Milk, a pint and half ——— at 1 *d*.
Potatoes, - 6 *d*. a peck.
Turnips, - 2 ditto.
Candles, - 6 $\frac{1}{2}$
Soap, - - 6
House rent, 25 *s*.
Firing, 35 *s*.

BUILDING.

Oak timber, 1 *s*. 6 *d*.
Ash, 1 *s*.
Elm, 1 *s*.
Soft woods, 9 *d*.
Mason *per* day, 1 *s*. 6 *d*.
Carpenter, 1 *s*. 6 *d*.
Thatcher, 1 *s*. 6 *d*.
Farm houses of stone and slate.

The general oeconomy of these little farmers will appear from the following sketches.

One of them has,

55 Acres

55 Acres all grafs	3 Young cattle
£. 52 Rent	200 Sheep
7 Cows	1 Boy
1 Fattening beaft	1 Maid.

Another :

40 Acres of grafs	2 Young cattle
£. 49 Rent	100 Sheep
6 Cows	1 Man.

Another :

20 Acres of grafs	3 Cows
£. 35 Rent	200 Sheep.

Another :

55 Acres	300 Sheep
£. 60 Rent	1 Boy
8 Cows	1 Maid.

Mr. *Thomas Elliot* of *Fremington* is one of the greatest improvers of moors in *Yorkshire*. The following account of his proceedings, I am obliged to himself for.

At *Greenfield*, in the parish of *Armcliff* in *Craven*, he has a contiguous tract of 2080 acres of moor-land, the rent of which, when he took it into his own hands, was 60 l. a year. The soil is of two sorts, part of it green sward on limestone; and part moorland. The smallness of the rent from such a vast farm, all of which he apprehended was capable of great improvements, induced him very justly to become the cultivator of it himself. His plan was sensible, and worthy a man of spirit and prudence: His design

was to inclose and improve a field every year; and this he accordingly has executed annually for several years. The method he takes to improve the black moory land is this.

He first pares, burns, and limes it; and sows it with turnips; of which he gets a pretty good crop, worth, on an average, about 40s. an acre: The next year he sows turnips again, and gets a second crop equally valuable with the first: After this, he lays down to pasture with ray grass, clover, hay-seeds, &c. &c. he has tried some alone, and some with oats, both do equally well, but the clover much the worst; the climate he apprehends too cold for it. He often limes for every crop. The oats are frequently five quarters *per* acre.

Potatoes he also cultivates in this black soil, in rows two feet asunder, and the sets one foot; and of these he gets often 100 bushels *per* acre.

The grass turns out very good profitable pasture, keeps milch cows, horses, small eating beasts, sheep, &c. very well: Two acres of it will carry a cow through the summer well: Some of these grass inclosures are five years old, and rather improve than decay; being better now than at first after laying.

Some pieces of this black land which he has inclosed wanted draining; and he has

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Some pieces of this black land which he has inclosed wanted draining; and he has

done it effectually, by drains two feet and an half wide at the top; two feet and an half deep, and one foot wide at bottom: The black earth thrown out he mixes with lime, and finds it an excellent compost, which answers greatly.

This black land in its unimproved state, is worth to no tenant above 1 s. 6 d. an acre, but improved as above, would let very easily for 8 s.

The limestone land he manages in the same manner, but the crops are much greater. The soil is a fine light loam from one foot to two foot deep; and worth to a tenant unimproved 5 s. an acre: He gets of all sorts exceeding fine crops from it; oats to six or seven quarters an acre, and not often less; and potatoes much greater than from the black land; but he keeps them quite clean on both. When laid down to grass, this soil is worth from 12 s. to 20 s. an acre.

Mr. *Elliot* in general lays it down as a maxim, never to attempt any improvement, without inclosing: He takes in a field every year; but the first work is surrounding it with a stone wall: This conduct ought universally to be followed, for those improvements that are undertaken without a previous inclosure, and into subdivisions, must be languid and of a short existence.—Another point of this cultivator's conduct is to lay down to grass, as soon as the land is in order,

as he breaks up and sows with turnips and corn, merely as a preparative to grass, which answers much better than arable.

He has improved in a few years 200 acres in the above manner; and he finds from experience, that the whole 2080 acres will be worth one with another 12 s. an acre when completed. His stock upon this farm is as follows.

20 Horses

40 Cows

1200 Sheep

300 Beasts in summer.

A noble parcel of cattle to be kept upon a wild spot, which once maintained scarce any thing; and was not distinguished from the unvarying dark hue of the whole country. Many tracts much more extensive of the neighbouring moors are more improveable than this, and want nothing but an equal spirit in their owners to be distinguished by a variation of title from the adjoining country as well as *Greenfield*, a name given to this farm from the appearance of *green* fields in the midst of black deserts.

Mr. *Elliot* in general deems the improvement of moors the most profitable of all husbandry, and finds by experience, that none are so bad, or of so stubborn a nature, but their cultivation will be highly profitable: He is induced to declare this from

general observations on the nature of moors, as well as from his own particular success.

The improvement of a tract of waste land from 60*l.* a year, to above 1200*l.* a year, should open the eyes of those indolent landlords who sleep on in the paths of their predecessors, blind to a meridian sun: They will possess the most improveable of wastes, but leave them in their most desert state, because they so received them: *What has been, may be,* is none of their motto; but *what has not been, shall not be,* is the drowsy guide of their actions.

From *Fremington*, I took the road to *Richmond*, by *Clintz*, the seat, late of that spirited cultivator *Charles Turner*, Esq; now of *Miles Stapleton*, Esq. Here are also to be viewed many inclosures taken in by the former gentleman from a black moor, and improved with great spirit; such of them as have been properly attended to, continue very profitable; none otherwise but such as have been very badly managed.—Mr. *Stapleton* has in one of them an acre of cabbages, adjoining a field of turnips; the cabbages, though late planted and not capital, are much superior to the turnips; if moor-land that is wet will yield beneficial crops of cabbages, it certainly is a great fresh inducement to cultivate them.

Pursuing the road to *Richmond*, about three or four miles before we came to the town, we looked down from the road on a very beautiful valley of cultivated inclosures on the river, and walled in by high hills. I found the country all moors, and greatly improveable, but—alas! none undertaken.*

Passing through that town, I returned by the road I had before taken as far as *Schorton*, and there turned off to *Kiplin*, the seat of *Christopher Crowe*, Esq.

* On the right side of the road before you descend to the town, one natural object caught my eye, which is exceeding pleasing: A fine curve of high land, all covered with hanging wood, half surrounds a valley, from the center of which rises a small woody hill with a little temple on the top, and some grass inclosures on the high grounds surrounded with wood; the whole forms a most pleasing landscape. It belongs to Mr. *Readshaw* of *Richmond*. Advancing a little farther, the view becomes very fine, from near the horse course there is a prodigious fine landscape to the right: The town is seen in a most picturesque situation at the end of the valley; a fine hanging wood on the other side down to the river; noble walls of rocks vary the scene, and beautiful grass inclosures at their tops, half surrounded with wood, give an amazing elegance to the view.

LETTER X,

THE husbandry of that gentleman, both common and experimental, is greatly worthy the attention of the public. But first let me, by way of introduction, give the agriculture of the farmers about *Kiplin*.

The soil is of two sorts, a loamy gravel, and a cold, wet, red clay; lets from 5*s.* to 20*s.* per acre.

Farms rise from 50*l.* to 200*l.* a year. Their courses of crops are:

On the gravels.

1. Turnips—2. Barley—3. Maslin.

On clay.

1. Fallow—2. Wheat—3. Oats.

And, 1. Fallow—2. Wheat—3. Pease and beans.

For wheat they plough four or five times, sow two bushels and half a peck; and gain in return upon gravel 25 bushels, and upon clay 18. For barley, they plough once or twice, sow two bushels and an half, and reckon the average crop at four quarters. They give but one stirring for oats, sow three bushels; the produce on a medium 30 bushels.

For

For beans, they plough but once in general, sometimes however twice, sow four bushels; never hoe them: The mean crop 30 bushels; use them for both horses and hogs. For pease, they give the same tillage as for beans, sow three bushels, and gain 20 or 30 in return. They cultivate some rye, generally on a barley stubble, plough but once, sow two bushels and a peck, and reckon the produce on an average, at 27 bushels.

They give five earths for turnips; never hoe them in common; but reckon the average value *per* acre at 4*l*. They use them for sheep, beasts and calves; the first eat them off the land, but they are drawn for the two last.

They prepare for rape, by paring and burning; they plough for it once; never feed it; the mean crop *per* acre of the seed four quarters. They sow wheat after it.

Clover is very little known; but when accidentally sown, it is with barley; they mow the first crop, get above a ton of hay *per* acre, and feed it afterwards. It has been in use these 30 years, till the land, some farmers think, is almost tired of it; and consequently better to lay it aside for some time in the old land. Then throw a chaldron of lime *per* acre, and break it up

for wheat. This is very good husbandry, and ought to be more practised on the turnip land.

As to manuring; paring and burning, and liming, is their chief dependence: the first is their constant method of breaking up of old sward. They cut the turfs about an inch thick, and dispose them in heaps, one to a square perch, they set them up to dry, the grass sides turned in, and when quite dry they burn them. Their method is to make two or three large heaps over night and to fire them; next morning they take the hot embers on iron shovels, for a foundation for the other heaps, which are so burnt without any fuel: If rain comes, the work is stopped till all is dry again. The expence is as follows:

				<i>l.</i>	<i>s.</i>	<i>d.</i>
Paring,	-	-	-	0	9	6
Setting up the fods,	-	-	-	0	3	6
Burning,	-	-	-	0	3	6
Spreading,	-	-	-	0	1	0
				0	17	6

In very dry seasons, they have dried themselves without setting up. The time for performing this work is *March*; and then turnips are sown in *May* or the beginning of

of *June*; which crop never fails of being a capital one.

It will in general run about 200 heaps upon an acre; and each heap contains two bushels and an half of ashes. This is 500 bushels *per* acre, which certainly must be a noble manuring. Good farmers add to the ashes about a chaldron of lime *per* acre. The whole improvement is an excellent one for seven years, during which period the land will continue in very great heart.

Upon this husbandry, it might be remarked, that having been long in use, and experienced with the greatest advantage on their best soils, is an undeniable proof of the excellence of the practice; and that those who argue against it so strenuously, as some have done, on account of an imaginary waste of the staple, are utterly mistaken; the theory of this practice is not the enquiry: Facts are alone to be considered.

Of lime they use much; lay from one to two chaldrons and a half *per* acre; and find it very beneficial to all sorts of land.

As to their farm-yards, their management is very incomplete, for they never chop their wheat stubbles; and their hay they stack about the fields: Consequently, the quantity of manure raised is very trifling.

Good

Good grafs lets from 12 s. to 20 s. *per* acre: They use it both for dairying and fattening: three acres will summer two cows; and one acre keep four or five sheep. The little dung they raise is all laid on it; a contract in their leases of no long date.

Their breed of cattle is the short horned. The annual product of cows is 5 $\frac{1}{2}$ and the average quantity of milk four gallons a day the summer through. To ten cows they keep upon a medium three fat hogs, and six lean ones. The winter-food, when dry, oat straw, and sometimes turnips or hay; when in milk always hay, or hay and turnips, of the first about two tons in a winter. Calves, for rearing, suck 14 days; for killing, a month. A dairy maid will take care of ten.—The summer joist of a cow is 34 s. in winter they keep them in the fields till calving.

In the fattening of cattle, they reckon if an ox of 80 stone is bought in at 11 $\frac{1}{2}$ in spring, he will in a general way sell at 16 $\frac{1}{2}$ out of the after-grass. And that the profit of summer-fattening beasts of 50 stone is 45 s. each, without giving them any after-grass.

Their worst grafs they apply to breeding, as it would not answer upon their best so well as either fattening or milking.

Their flocks of sheep rise from 20 to 200, and reckon the profit in three ways, as follows;

If

If they are bought in at 20 s. } l. s. d.
 each, a lamb and a half may }
 be expected upon an average } 0 18 0
 of years throughout, worth }
 12 s. which is - - - }

Wool,	-	-	-	-	0	4	0
Ewe,	-	-	-	-	0	16	0
					1	18	0
Prime cost,	-	-	-	-	1	0	0
Clear profit,	-	-	-	-	0	18	0

The next method of calculating the profit is thus :

Lamb and half,	-	-	-	£.	0	18	0
Wool,	-	-	-	-	0	4	0
Ewe,	-	-	-	-	1	0	0
					2	2	0
Prime cost,	-	-	-	-	1	0	0
Profit,	-	-	-	-	1	2	0

Lastly, they calculate as follows :

Lamb and half,	-	-	-	£.	0	18	0
Wool,	-	-	-	-	0	4	0
Ewe,	-	-	-	-	1	2	0
					2	4	0
Prime cost,	-	-	-	-	1	0	0
Profit,	-	-	-	-	1	4	0

The

The average of these accounts, or 1*l.* 1*s.* *per* head profit, will be the average of this neighbourhood.

In winter and spring, they are very attentive to their sheep. They give the ewes hay among the cows; and when near lambing a few turnips or a little corn; and after lambing generally some corn, half a bushel each. Keeping them late in the spring, they reckon worth 6*d.* a week; they generally give them a field of grafs, which they keep on that account the longer for mowing. But this is vile management, and calls aloud for a different conduct.—Of this more hereafter.—The average weight *per* fleece is about 7*lb.*

In tillage, they reckon eight horses necessary for the management of 100 acres of arable land; use three in a plough, but in fallowing, four: Do an acre a day. The common price, *per* acre, 5*s.* They go in clay soils four inches deep, and in gravel six. They allow their horses, in winter and spring, half a bushel of oats each *per* day; none in summer; and reckon the annual expence, *per* horse, at 6*l.* 10*s.* The summer joist, 45*s.* They know nothing of cutting straw into chaff. The time of breaking up their stubbles is between *Candlemas* and *Lady-day*.

In the hiring and stocking of farms they reckon 600*l.* necessary for one of 100*l.* a year,

a year, one third arable, and two thirds
grafs.

Tythes are generally compounded for ;
a whole farm, in one sum.

Poor rates 1 s. in the pound : The em-
ployment of the women and children,
spinning flax, by which a woman can earn
4d. a day, and a girl of 10 years of age,
3d. All drink tea.

The farmers carry their corn seven miles.

There are many freeholds from 50*l.* to
300*l.* a year.

The general œconomy will be seen from
the following particulars of farms.

300 Acres in all	80 Sheep
70 Arable	2 Carts
230 Grafs	3 Ploughs
£.200 Rent	2 Men
6 Horses	1 Boy
14 Cows	2 Maids
8 Fattening beasts	2 Labourers.
24 Young cattle	

Another :

320 Acres in all	30 Sheep
120 Arable	2 Carts
200 Grafs	3 Ploughs
£.100 Rent	2 Men
8 Horses	1 Boy
2 Oxen	2 Maids
11 Cows	3 Labourers.
27 Young cattle	

Another :

Another :

130 Acres in all	20 Sheep
40 Arable	2 Carts
90 Grafs	2 Ploughs
£. 55 Rent	1 Man
4 Horfes	1 Boy
10 Cows	1 Maid
8 Young cattle	1 Labourer.

Another :

89 Acres in all	4 Young cattle
22 Arable	16 Sheep
67 Grafs	1 Cart
£. 40 Rent	1 Plough
3 Horfes	1 Man
6 Cows	1 Maid.

Another :

400 Acres in all	60 Sheep
80 Arable	2 Carts
320 Grafs	3 Ploughs
£. 170 Rent	2 Men
8 Horfes	2 Boys
16 Fatt'g beasts	3 Maids
24 Cows	1 Labourer.
36 Young cattle	

Another :

190 Acres in all	3 Horfes
28 Arable	8 Fatt'g beasts
162 Grafs	10 Cows
£. 100 Rent	24 Young cattle
2	150

150 Sheep	1 Man
1 Cart	1 Boy
1 Plough	2 Maids.

Another :

300 Acres in all	180 Sheep
60 Arable	2 Carts
240 Grass	3 Ploughs
£. 150 Rent	2 Men
7 Horses	3 Boys
4 Fattening beasts	1 Maid
7 Cows	2 Labourers.
9 Young cattle	

LABOUR.

In harvest, 1 s. and board.

In hay-time, ditto.

In winter, 10 d.

Mowing grass, 1 s. 8 d. to 1 s. 10 d.

Ditching, 6 d. a rood.

It is to be remarked that all the banks of hedges are paved with large coble stones, stuck into the earth, which they assert strengthens the fences greatly, and will, if well done, last an hundred years. Their ditches are mere nothings; the hedge grows out of a bank about a yard high, and two feet wide at the top. But I am well assured, that if they kept half the hogs that are common in the dairy farms in *Suffolk* and *Essex*, where much clover is sown for their
summer

summer food, they would not have a perch of sound fencing in the whole country. The farmers, where the feeding hogs upon clover alone (locked into a field of it for a whole summer) is not practised, know not what a thorough good fence is,—save that of walling. I never yet saw in any place where this was not the practice, a field so well fenced, but if a drove of an hundred swine were locked into it, they would make their way out of it, in two days, through five hundred gaps.

Thrashing wheat, $2\frac{1}{2}d.$ *per* bushel.

————barley, $2d.$

————oats, $8d.$ ditto.

————beans, $3d.$ *per* bushel.

First man's wages, $13l.$

Next ditto, $10l.$

Boy of 10 or 12 years, $4l.$

Dairy maids, $5l.$

Other ditto, $3l. 10s.$

Women, *per* day in harvest, $9d.$ to $1s.$

In hay-time, $6d.$

In winter, $5d.$

They reckon the cost of a team annually,

Man,	-	-	-	-	£. 23
3 Horses,	-	-	-	-	18
Cart, plough, and harrow,	-	-	-	-	2
Boy,	-	-	-	-	5
					48

IMPLEMENTS, &c.

No waggons.
 A cart, 6 *l*.
 A plough, 24 *s*.
 A harrow, 20 *s*.
 A roller, 40 *s*. to 50 *s*.
 A scythe, 5 *s*.
 A spade, 3 *s*. 6 *d*.
 Laying a share, 3 *d*.
 ————coulter, 3 *d*.
 Shoeing, 1 *s*. 4 *d*.

PROVISIONS, &c.

Bread,—Maflin 1 *s*. 2 *d*. the peck loaf.
 Cheefe, - - 2
 Butter, - - 8 ——— 22 *oz*.
 Beef, - - 2 $\frac{3}{4}$
 Mutton, - - 2 $\frac{3}{4}$
 Veal, - - 2 $\frac{3}{4}$
 Pork, - - 3 $\frac{1}{2}$
 Milk, - - $\frac{1}{2}$ *d*. a pint.
 Potatoes, - 4 $\frac{1}{2}$ a peck.
 Candles, 6 $\frac{1}{2}$
 Soap, - - 6
 Labourer's house rent, 25 *s*.
 ————firing, 16 *s*.
 ————tools, 3 *s*.

BUILDING.

Bricks, 12 *s*. a 1000.
 Tiles, 40 *s*.
 Ash timber, 10 *d*.

Mason, *per* day, 1 s. 8 d.
 Carpenter, ditto, 1 s. and board.
 Farm houses of brick and tile.

In the township are,

	1000 Acres
	£.415 Rent
26 l. 10 s.	{ 11 l. Poor rates
	{ 9 l. Surveyor's ditto
	{ 2 l. 10 s. Church ditto
	{ 4 l. Constables
	4 Farms
	5 Labourers
	35 Poor
	61 Horses
	50 Cows
	500 Sheep
	35 Fattening beasts.

Mr. *Myers*, a tenant of Mr. *Crowe's*, has carried this husbandry somewhat further than the preceding state, in a few instances which deserve notice: I minute the worthy endeavours of an honest farmer with as much, nay, with more pleasure than those that are made by men of the largest fortune. — He once reaped 50 bushels *per* acre of oats, over 11 acres of land succeeding rape. — He has a little ill-looking cow, which gave seven gallons of milk *per* day through all last summer; it was regularly measured. — It is a common practice with him to let his grass ripen the feeds before he mows

mows it for hay; for the sake of selling the seeds, or using them to lay down his own fields with. From six acres of grafs he had 200 bushels of clean seed, which he sold at 1 s. 6 d. to 2 s. 6 d. a bushel: He threshed the hay directly, and stacked it; nor was it (in his opinion) much the worse. The seed was worth to him two guineas an acre.

Mr. *Crowe's* improvements upon this general system of common management are great and numerous; yet that this is not a mere assertion will clearly appear from the following register of his practice.

First let me insert the particulars of his farm.

- 300 Acres in all
- 60 Arable
- 240 Grafs
- £. 170 Rent
- 6 Farming horses (and has the dung from 18 others, the total number being 24.)
- 7 Cows
- 4 Fattening beasts
- 8 Young cattle
- 230 Sheep
- 3 Ploughs
- 5 Carts.
- His farming servants are,
- 1 Bailiff
- 1 Blacksmith
- 6 Labourers.

The soil is gravel and clay, but his arable fields all clay. His courses of crops,

1. Fallow.
2. Wheat, designed for oats next, but if the land does not turn out very clean and in good heart, then it is fallow again.

1. Fallow—2. Wheat—3. Oats.

Another :

1. Fallow—2. Wheat—3. Pease or beans.

A fourth :

1. Fallow — 2. Wheat — 3. Cabbages—
4. Oats.

An excellent course!

His fallow is this. As soon after *Michaelmas* as possible, he breaks up the stubble, and throws in a chaldron of lime *per acre*; It is then gripped well to lie dry during the winter, to be ready in the spring for whatever crop is thought most proper. If the countenance of the land is not good, either from being weedy or want of being enough reduced, it is summer fallowed for wheat, receiving in all six or seven earths; but if it carries a good appearance, it is either sown with spring corn, or planted with cabbages as supposed most proper. Two bushels of wheat seed, the quantity and his crop four quarters upon an average.

For oats he ploughs once before winter and once more in the spring, and if the land then is not pretty fine, he stirs a third time
fow

sows three bushels and an half, and gains upon an average seven quarters *per* acre.

For beans also, this excellent cultivator ploughs once before winter, and once at sowing: Four bushels *per* acre, his quantity of seed, and gains about 30 bushels in return: Approves much of hoeing them; but as he generally mixes a few pease with them, does it not on that account.

He likewise gives two earths, as before, for pease; sows four bushels, and reckons his average crop four quarters.

Clover he does not cultivate in common, but when he accidentally raises it, he sows it with either beans or oats, feeds it with sheep, and afterwards ploughs the land, either for wheat, or winter fallow, as most promising.

In the management of his manure, this spirited gentleman is likewise very attentive. The common method of using lime is to lay a chaldron and a half *per* acre on summer fallows, either for turnips or wheat: But instead of this practice, he has substituted another, which he finds greatly advantageous, and which thought I believe is original. It is to throw a chaldron *per* acre every year over all the arable land of his farm before winter, and plough it in, whether for a crop or a fallow. This he finds to be of excellent service in mellowing the land with the spring frosts;

and dries it in such a manner, that all his lands are by these means ready a fortnight at least sooner in the spring for ploughing; an effect which is undoubtedly of great consequence, as it accelerates an early sowing, so important in all crops.

Soap ashes he buys, and finds them an excellent improver.

Buck-wheat he has also tried; sowed one bushel *per* acre upon two ploughings; it was mowed when in flower the beginning of *August*, and ploughed in directly: He has both sown wheat upon it, and also left it for a winter fallow; the success very great. One remark this intelligent gentleman made upon the operation of manures, which is certainly of great truth: That after a farm has been long used to a settled course of manuring, variety is of great consequence. Insomuch that he has found upon those fields where lime alone had for some years been used, that the introduction of a new manure has operated greatly more than its proportion of the old one would have done: For which reason it is of consequence to procure as many sorts as possible.

Mr. *Crowe* applies his grass, about half to dairying and half to fatting, and finds that an acre is sufficient by mixing stock to equal the summering of a cow. In the making his hay, he uses a very cheap and simple machine, which deserves imitation, as it
saves

saves a great deal of labour. See Plate III. Fig. 1. This machine is set against a row of hay, and draws it into vast heaps, ready for being cocked, which it then is very expeditiously.

Nine acres of new laid ground sown with barley, after rape and turnips mixed together, with, *per acre*,

14 *lb.* of white clover.

10 Bushels of hay seeds.

7 *lb.* of rib-grass.

Kept the second year,

7 Cows,

2 Year olds,

1 Colt,

from *May-day* to *Michaelmas*, and 100 lambs four weeks; which is certainly a great stock.

His breed is the short horns, in compliance with the common custom of the neighbourhood. His cows, upon an average, from *May* to *Michaelmas*, give two gallons of milk a day; but for six weeks in the height of the season six gallons a day. The winter food is generally hay, of which they eat about two stone a week, for 20 weeks. They are kept in the fields during winter.

This gentleman's standing profit on sheep is 24 *s.* *per* head, which he calculates as follows:

		<i>l.</i>	<i>s.</i>	<i>d.</i>
The ewe bought in at	-	1	0	0
A lamb and a half, which is the	}	0	18	0
average, at 12 <i>s.</i>		-	-	-
Wool,	- - -	0	7	0
		2	5	0
Prime cost,	- - -	1	1	0
Profit,	- - -	1	4	0

His breed is between the *Teefwater* (reckoned the largest sheep in *England*) and *Swale* sheep; the first for the size of their carcases, and the second for the shortness of their legs.

Their winter food is grass, and hay at the stack. In spring they have cabbages, but in case they have not, then two bushels of oats each, in troughs beside their hay.—The average weight, *per* fleece, is 8 *lb.* but has had 17 *lb.* from a shearing wether, and 14 *lb.* from a shearing ewe.

In the tillage of his arable, he reckons six horses necessary for sixty acres. Uses two or three in a plough, according to the state of the soil, which do an acre a day, stirring six inches deep.

According to the system of management which he has guided himself by, 6 or 700 *l.* would be necessary to stock a farm of 100 *l.* a year.

The

The principal part of this gentleman's experimental agriculture is the raising of cabbages, which he began in 1762, and has since constantly carried on with great spirit and no less success. In that year he had three acres upon a clay soil, winter-fallowed. They were both winter and spring plants, that is, raised from seed sown at those times. The rows were four feet asunder, and the plants two feet from each other. They were well horse and hand-hoed. The crop was upon an average 12 *lb.* each cabbage. They were begun to be used for all sorts of cattle about *Martinmas*, and found of admirable use for all.

1763.

This year, encouraged by the success of the last, he planted eight acres, also upon a clay soil, both winter and spring plants; the preparation of the land the same; the rows as before; and the horse and hand-hoeing likewise the same. They were begun at *Martinmas*, and lasted into *May*.—The average weight *per* cabbage 14 *lb.* They were used for sheep, fattening oxen and cows, and with great success for all.

1764.

Eight acres were likewise planted this year upon the same soil, in the same manner, and managed as before: They were begun at *Martinmas*, and lasted till *Lady-day*: Used
for

for all sorts of cattle : the average weight
per cabbage, 12 lb.

1765.

Eight acres, of a loamy clay, that had been
but three years in tillage, were planted this
year ; the preparations and management as
before : They were used for all sorts of cattle,
and lasted to the middle of *April*. Average,
per cabbage, 20 lb. some of them 42 lb.

1766.

Nine acres of clay were appropriated to
them this year. Culture, &c. as before.
Lasted from *October* till *April*. The average
weight, per cabbage, 18 lb. Used for all sorts
of cattle.

1767.

Nine acres of clay this year applied to
them ; in every respect under the same ma-
nagement as before. The average 15 lb.

1768.

The great success hitherto attending the
culture of this most profitable vegetable,
induced Mr. *Crowe* to apply no less than
13 acres to cabbages this year. I viewed
them with great pleasure ; the weight
he expects not to be equal to the preced-
ing years, from the very unfavourableness
of the season, as a severe drought set in just
after planting : But this supposition is no
certainty, as they were not near arrived at
their full growth. I weighed several which

I apprehended near the average size, and found them, upon a medium, 7 *lb.* each: I should suppose the crop will come to 10 or 11 *lb.* each.

Cabbages are found much superior to turnips; this is a remark Mr. *Crowe* has constantly made, and it was proved strongly this year, by a piece of turnips being sown in the cabbage field, which evidently to the eye were not comparable to the cabbages; not amounting to above a sixth part of the weight of them.

The mention of turnips reminds me of the very bad common husbandry of this country, relative to turnips, *viz.* the not hoeing them. Of the product of crops so managed, I can give a pretty exact account; for expressing a desire to weigh a square perch of the common turnips, Mr. *Crowe* carried me to a field of one of his tenants for that purpose; as he was willing to give them fair play, he rejected the first field, on viewing it, as the crop was *very bad*: We then walked to a second, and that proving much the same, he enquired of the people with him where the best common crop was to be found.—Their opinions were various, but for satisfaction we walked from one to another, and at last one was fixed on as the best; furthermore, the very best spot in the whole field was sought for and found, and a square perch measured, the turnips topped

topped and tailed ; and the product in baskets as follows ;

No. 1.	-	-	50 lb.
2.	-	-	50
3.	-	-	52
4.	-	-	41
			193
Basket,	-	-	12
			181

which is *per* acre, 12 tons 18 cwt. I have myself cultivated turnips on worse land, and without dung, to 35 tons *per* acre, through a whole field : The want of hoeing is sufficient to counterbalance every possible advantage.

Here was a trial not only of the best field, but of the best part of the field ; and the product to be so trifling, shews very plainly the infinite use of hoeing.—It is true, something is to be allowed for growing ; for turnips do not arrive at their full growth till *Christmas*, or the first frosts ; though I apprehended much sooner when crowded so thick as they are in the fields not hoed : For this reason, if we suppose them only three fourths grown, I am confident the allowance will be an ample one. In this case, the full weight will be near 16 tons. But here let me remark, that from this weighing and walking through several fields,

fields, I am perfectly clear, the *average* weight *per* acre of the whole country would not rise to above five tons. Mr. *Crowe* has raised cabbages over a whole field, of 50 tons *per* acre; in other words, as much on one acre as the farmers do of turnips on ten. A very striking comparison!

Candour, however, requires me to add, that this gentleman prefers turnips to cabbages on light, or gravelly land: But I must be allowed to remark upon that opinion, that the justness of it depends merely upon the turnips being hoed or not. If they are hoed, I leave it to further enquiries to decide the parallel: If they are not hoed, common sense must determine it in a moment. The cabbages are a very valuable crop; whereas the turnips, for more reasons than one, are pernicious. They are esteemed a fallow, though full of weeds, and the land bound, and rough; the consequence of which is, the soil being constantly in wretched order; the corn crop miserably full of weeds—so that you will walk over them, and pointing it out, be told, it is after a fallow—that is to say, turnips unhoed: A very capital fallow, it must needs be confessed!—But the contrary of all this is the case with cabbages. The remedy for this bad husbandry is very plain; if turnips are hoed *thoroughly*, let them pass for a fallow; if not, a crop.

Such are Mr. Crowe's experiments upon this very valuable plant: Next I shall present you with his general instructions for the cultivation of cabbages, the effect of his experience.

Soon after *Michaelmas*, the land should be ploughed and limed at the rate of a chaldron *per* acre. In the spring it is to be ploughed twice more, and thrown the second time into ridges, four feet asunder.

The seed for winter plants should be sown in *August*, as soon as you can get it, and pricked out into a piece of good land at *Michaelmas* about eight or nine inches asunder; and into the field along the above ridges, two feet from plant to plant, in *March*—the sooner the better.

For spring plants, the seed must be sown in *February*; and pricked out or not as it happens; it is not so necessary as with the winter plants. The end of *May*, or the beginning of *June*, is the time for transplanting them to the ridges, which season will allow a third spring plowing.

They are never to be watered; not but in some seasons it might be beneficial; but, upon the whole, they do extremely well without it; and the work is not only expensive but very troublesome.

As soon as the plants are strong enough to bear earth against them, and stand of themselves, then turn a furrow from them, and

and in a day or two throw it back again ; this loosens the moulds, and renders the soil fit for the young cabbages to strike root into : As soon after as any weeds are perceived upon the ridges, they should be hand-hoed ; and repeat it by that direction as often as it may happen during the summer.

The horse-hoeings are to be directed upon the same principle ; when the intervals are weedy, or tending to too great a stiffness, or the plants looking as if they wanted nourishment ; the horse-hoeing should, in such cases, be repeated, without regard to time.

They will, in general, be ready for use about *Martinmas* ; a very convenient time ; for the after-grass is then going off, and they will, for all sorts of cattle, supply its place : No food is found better for fattening beasts old or young ;—nor can any thing thrive better upon any sort of food than sheep upon cabbages. They will in general last till *May-day*.

With the preceding management, upon clay land of 10 s. an acre, they may be expected, upon an average of soils and seasons, to rise to 14 *lb.* one with another.

The expences *per* acre, are as follow ;

Rent,	-	-	-	£.	0	10	0
Seed,	-	-	-		0	0	6
Pricking out,	-	-	-		0	5	0
Carry over	-	-	-		0	15	6
				Brought			

Brought over	-	-	£. 0	15	6
Transplanting,	-	-	0	5	0
Three ploughings,	-	-	0	15	0
Four horse hoeings,	-	-	0	5	0
Hand-hoeing,	-	-	0	4	0
			£. 2	4	6

At 14 *lb.* each, they amount to 34 tons, 5 cwt. *per* acre.

These instructions are clear, judicious, and truly the result of experience: I need not therefore add, that they are peculiarly valuable. They sufficiently prove how important an object cabbages are in rural œconomics: And also how extremely sensible this gentleman's introduction of them to a country that abounds with so valuable a breed of sheep, without possessing any spring-food for them, but the ruin of their pastures.

Potatoes, Mr. *Crowe* has cultivated for many years, and generally from one to four acres. His method is to make them a fallow year. Winter fallows for them, manuring with long dung or haulm. He plants them in *April*, in rows two feet asunder, the sets nine inches from each other, 12 bushels to an acre. He horse-hoes them with a common plough four or five times; but the first operation is to harrow the land over as soon as they are up, to level it; beside

beside the horse-hoeings, they are well hand-hoed, as fast as the weeds get up. At *Martinmas* they are ploughed up, unless the land is for wheat; in which case, they are taken up at *Michaelmas*. The average produce 120 bushels *per acre*. Wheat is better after them than after a fallow. If any thing besides dung is used for them, as sometimes haulm, thatch, fern, rushes, &c. they are laid on a heap and covered with some dung at top about *Michaelmas*, to be somewhat rotten in the spring when used: This is an excellent practice, and worthy of imitation, as it all contributes to make the clay light.

This gentleman has made some discoveries in the use of them, which are very important. When boiled, nothing feeds poultry better, and hogs fatten upon them excellently. All sorts of young cattle in the farm-yard, he has found, will eat them raw, but if boiled they will be more nourishing, and go much farther. This is the result of experience, and deserves great attention; for in soils that are suitable to this root, the quantity produced from a few acres is prodigious, many hundred head of cattle might be wintered, with the application of very little land to this use.

If the potatoe soil is dry, Mr. Crowe covers the tops of the ridges (of such as are for family use) with long straw, haulm, &c.

He then takes them up as they are used, and finds that they will last good till *Candlemas*, and also grow till then.

Jerusalem artichoaks he has also cultivated, and with good success; he gets about three bushels from a square perch, or 480 bushels *per acre*: Has had a peck from one root; and half a peck of potatoes.

Another very important experiment made by Mr. *Crowe* was in the article of tillage. He gave a large clay field a two years complete fallow, both winter and summer: He both years limed it well, one and an half chaldron *per acre*, three chaldrons *per acre* in the whole. The second *Michaelmas* it was sown with wheat, after twelve ploughings. What may be supposed the result? Surely a most capital crop!—no such matter. After the corn was finely up, the spring rains, from the fineness of the soil, plaistered the whole surface like mortar; the crop only 14 bushels *per acre*, and corn bad.

Upon this experiment, (which is very curious) I should remark, that the warm advocates for tillage ought not to be general in their expressions; like *Tull*, *De Chateauvieux*, *M. du Hamel*, and an hundred others, since it is evident a thorough pulverization may on some lands be pernicious. This gentleman had never so poor a crop on any sort of land, or with any management, which plainly indicates the true reason. I

have

have had much experience of soils, which bake with a quick sun after rain; and can easily believe, that the finer they are made, the worse is the chance for a crop, unless it is a hoeing one, such as turnips or beans, potatoes, &c. which are not only hoed, but will bear a harrowing in case of rain, and plaistering: Had this crop of wheat been mine, I should have harrowed it in the spring thoroughly.

For the purpose of cleaning his fallows, Mr. *Crowe* invented a horse-rake, which he finds of incomparable use: It rakes out twitch and such trumpery very effectually. See plate III. fig. 2.

Another most excellent practice of husbandry, and which I believe is quite peculiar to this gentleman, is the moving all the old hedges about his farm, which were upon hills and high parts of the field, into bottoms; an admirable thought, the propriety of which must strike every one at the first mention: The ditches upon the higher parts of the fields are of no use in draining, which is one great end of ditches: And the hedges in such situations can only keep the sun and wind from the land, which in wet soils, and all clays, is a very great disadvantage: But by making them in the bottoms and hollows, the land is necessarily drained; the expence of the usual drains in such places saved: the sun and wind have a free course

over the fields, which are consequently so much the sooner dry, and ready for ploughing; and in all respects the sounder and healthier. I cannot speak of this practice in the manner it deserves. It is worthy of universal imitation on clay, and all moist soils where the country has any variations of surface.

Nor is this spirited cultivator less attentive to draining his clay soils by means of large covered drains. He digs them from three to six feet deep, two feet wide at bottom, and four feet at top, and within that space turns an arch of brick work; this is doing the business of main drains very effectually, and being below the bottoms of all his ditches, water no where stands in them for want of a fall, which is very often the case: And further, one of the principal points of a general hollow draining is thereby executed; as three or four such main ones being judiciously made about a farm, an opportunity is every where commanded for laying the lesser ones into them, whenever it is thought proper to make them.

In all parts of rural oeconomics, this gentleman is judicious in his designs, and spirited in the execution. When he came to his estate, he found all the farm houses and offices in miserable repair; many he has pulled down, and has repaired all: Those he raises from the ground are all substantially built

built of brick and tile ; and one upon his own farm for the residence of his bailey, with all sorts of conveniences in plenty ; and a neat room for drinking tea in, (as it is at a proper distance from the house) : This building is no slight ornament to his grounds ; it is elegant as well as useful.

Further let me remark, that Mr. *Crowe* is as attentive to the improvement of his estate by planting, as by good husbandry ; and this likewise in a very judicious method. He totally disapproves of setting trees in hedges, for various and good reasons——such as the necessity (for want of being well defended) of planting them at too great an age——their dripping on to the lands in farming, and thereby damaging the crops——their affording an opportunity of passing over the fences——with many other reasons, that must be obvious to every one. To rows likewise many of these objections hold equally strong:——But the method used by this gentleman is to plant screens in such situations about his estate, as best defend it from the injury of winds, and so as to command in every farm a dry warm-sheltered pasture or two, open to the south, for ewes and lambs in the spring ; which is a point of consequence, though little attended to in general.

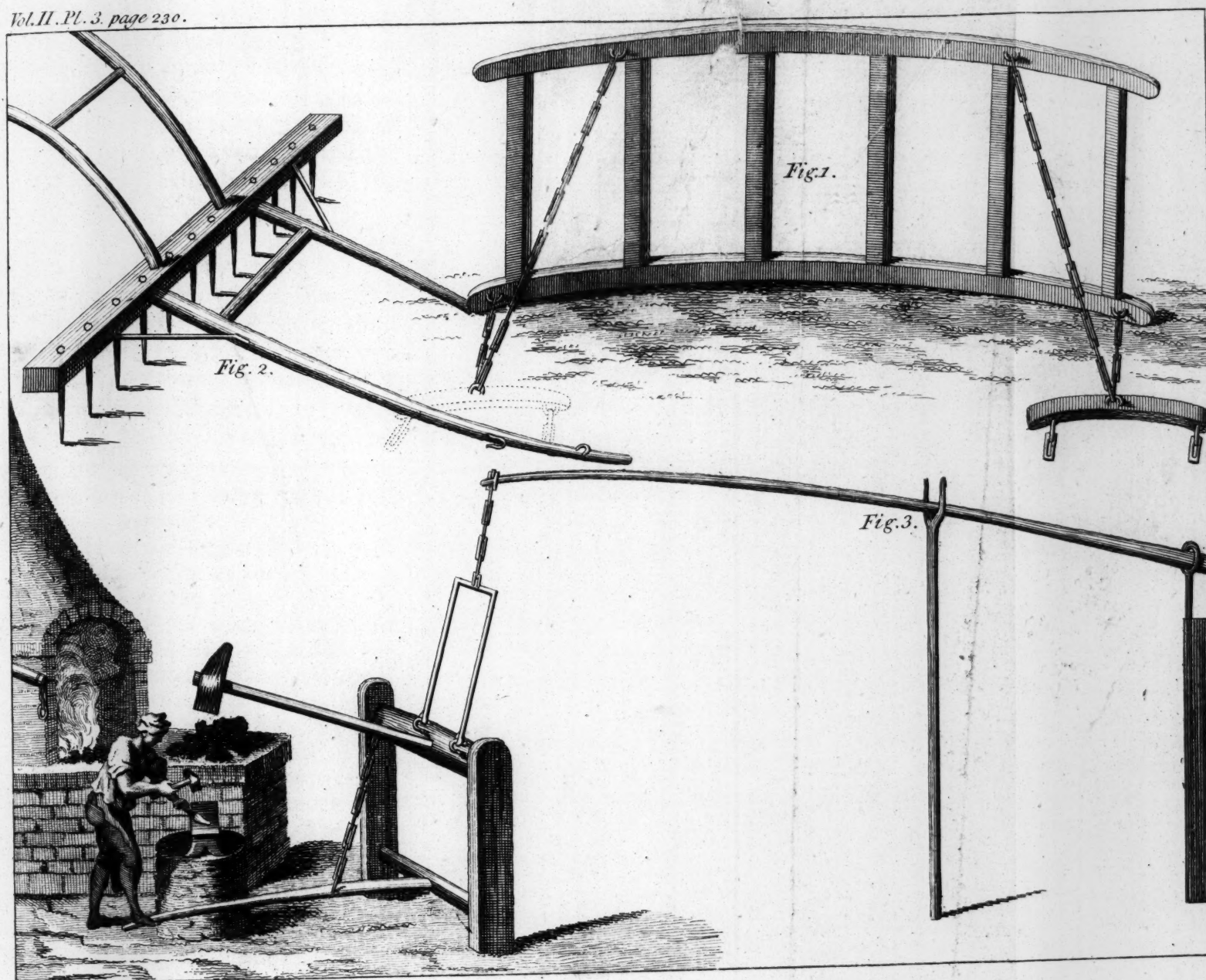
By means likewise of appropriating slips of land to this purpose, the trees are planted

at any age, and as they are well fenced in, are secured from all injuries; which, when singly done, is an endless and a most expensive business.—This way of planting cannot, upon the whole, be too much recommended, as it is attended with numerous and great advantages, and quite free from the objections which lie against all other methods.

One slight contrivance in mechanics, this gentleman has found of singular use. It is the erection of a large blacksmith's hammer, to be worked by his foot, while he uses the small one in his hand. It would be of excellent service to all country smiths. See plate III. fig. 3.

I cannot conclude this register of Mr. *Crowe's* husbandry without remarking, that his neighbourhood in particular, and the public in general, are highly obliged to him for the spirit with which he has conducted so many inquiries in husbandry. It is an employment truly worthy of a country gentleman of fortune; who, without being solicitous about profit, commands it in a high degree; and lays a foundation in his discoveries for the absolute support of thousands *.

* I must not quit *Kiplin*, without observing that Mr. *Crowe* has a collection of pictures, which, though not so generally known as many others,





I made use of the opportunity of being at *Kiplin*, to view the experimental agriculture of — *Smelt*, Esq; at the Leases; of which he was so obliging as to give me the following account. It chiefly consists in the culture of cabbages: he began in 1763.

That year he had two acres, upon a soil partly sand and partly clay, mixed; not good land, being very binding. The seed was sown the beginning of *March*; and transplanted from the seed-bed into the field in *May*; which had been prepared by a winter fallow of three ploughings, besides harrowings. The rows were four feet

others, yet contains some very capital pieces. The following is a catalogue.

Bassan. Adoration of the shepherds. A most capital picture. The expression exceedingly fine; and the colours excellent. The attitude of the Virgin is graceful and delicate: The expression of her countenance admirable, and the drapery of the veil about her head well designed. The boy is excellently performed; his attitude fine, and the bold relief of his head incomparable; but, like all the children of painting, has too much animation in his countenance. The old man's head, who leans it on his hand, is in a fine stile. The figure who kneels, and holds the ass by a rope, is extremely well designed; the relief noble, and the spirit of the tints great. But excellently

afunder, and 22 inches from plant to plant. They were horse-hoed four times, besides hand-hoeing and hand-weeding. They were begun in *November*, and lasted till the end of *March*; weighed, upon an average, 7*lb.* each. They wintered three steers, seven milch cows, and 20 sheep. The steers (which were of 60 stone) eat 12 stone a day; had them in a grass field.

The cows eat seven stone a day. They never milked better in the height of the summer; the butter was perfectly good, and kept exceedingly well: But this depended upon their eating no decayed leaves; which

as this figure is executed in some respects, in others it is equally faulty; it is of no expression, and the attitude most unmeaning. The figures by the ass, are somewhat expressive, but in nothing relative to the subject of the picture; indeed the whole group of the ass and the three shepherds is strangely introduced, having scarcely any thing to do with the business of the piece. The ass's head is surprisingly finished.—The landscape is not pleasing.

Upon the whole, the spirit and relief of the figures, with the strength of the colouring, render it a most noble picture; and it is not done in the coarse blotching stile, so common to the pieces which pass under the name of *Bassan*.

Venetian

made the butter taste. It kept a fortnight perfectly good; and the cabbages yielded proportionally more butter from a given quantity of milk, than from any other food.

1764.

This year Mr. *Smelt* cultivated four acres upon the same soil, which he prepared for as before. When the ridges were formed, a furrow was cut by a plough four inches deep, and sprinkled with rotten dung, by women out of baskets, at the rate of seven loads *per acre*: After this the plough turns a furrow on each side the drill, and covers the dung with a small ridge; lastly a wooden

Venetian School. Two courtezans, a brown and a fair woman; the latter is very fine, the attitude and the countenance pleasing; and the drapery good: The expression of the light and relief strong.

Horizonti. A large landscape. A castle on a hill, with a river at the foot. The trees with the light behind them well done; the attitudes of the figures very natural; and the goats well executed.

Ditto. A sacrifice. The variety and attitudes of the figures very well imagined; the light between the trunks of the trees on the right, lively, and gives a full relief: The colours more natural than in the other piece: Upon the whole, a pleasing picture.

Luca

roller was run along the ridge to press the soil; for the plants Mr. *Smelt* has observed to canker, if the soil is loose about the roots. The average weight *per* cabbage was 8 lb.; used for the same cattle as last year; and with equal success in every respect.

1766.

In the year 1765, this gentleman had no cabbages; and found the want of them in winter very great for the production of sweet fresh butter: Turnip butter is not eatable; and hay very apt to dry the cows; or at best to give but little milk. This year he planted the same field as used in 1764; the

Luca Carloverli. Four views of *Rome*.

Nº 1. A quay. The attitudes, business, variety, and expression of the figures, good. The water natural; and the architecture in a fine taste; but the sameness of the colours displeasing.

Nº. 2. The figures spirited, the architecture fine, and the general effect pleasing.

Nº. 3. The figures good, but the architecture and ruins not very picturesque.

Nº. 4. Fine. The shrubby wood, growing out of the rock, with the light behind it, picturesque and pleasing; the architecture not in the best style.

Four views of *Venice*. The vast variety of the figures in these pictures, very well executed and expressive; the architecture minutely finished; the perspective excellent, and the colours pleasing.

management, product, and use, nearly the same as last crop.

1767.

The old cabbage field was again planted this year; culture, product, and use, the same as before.

1768.

This year five acres were planted, but in the same field as before: Management in all respects the same; they promise to be a very profitable crop, but not equal to the preceding ones, owing to the extreme unfavourableness of the season just after planting.

School of the Carracci. A woman pointing out two boy angels to a girl: At present in two pieces. Her figure is very masculine; the relief bold and fine; her left leg almost projects from the canvas. The drapery is good; and the attitudes of the boys excellent.

Luca Giordano. Two gateways; fine. The colours very good; and the architecture the same.

Four pieces of ruins. Very fine.

Unknown. Marriage of *Joseph* before the High Priest. Excellent. The group, attitudes, colours, and expression, fine.

Ditto. An *Ecce Homo*, and a *Mater Dolorosa*: Companions. The expression of the countenances very great; and the finishing exquisite.

Ditto.

Upon the whole, Mr. *Smelt* has found cabbages to be a most advantageous crop; of admirable use to all sorts of cattle; but peculiarly so for milch cows: He is determined never to be without them for that purpose, as the butter is found to be excellent, from the constant experience of so many winters: And every one will acknowledge that a green vegetable, which will make good butter in the depth of winter, is a most valuable acquisition, not to husbandry alone, but the convenience of all families unconnected with it.

Ditto. *Leda*, and *Danae*, companions. Most pleasing; the naked finely designed and very well coloured, but both their countenances are devoid of the animation of the moment. *Leda* turns from her swan with the most perfect indifference.

Flemish School. Four pieces of family business in low life. Very expressive and well coloured.

Rosalba. *Cymon* and *Iphigenia*. Very pleasing. *Iphigenia's* attitude and body fine; but the colours gone.

Unknown. Virgin and Child; an oval. Fine.

Flemish School. Boors at cards. Expressive.

Unknown. Six cattle-pieces, roughly finished, but well executed.

Brammante. The offering of the wisemen. The finishing of this piece is very fine: but the ideas are all those of a boor; and one of

Besides these trials on cabbages, Mr. *Smelt* has executed some other experiments which deserve particular attention. One upon the breaking up and laying down to grafs, is very curious.

A field of 22 acres, old lay, that had not been ploughed of 40 years, was grown so bad, mossy, and hide-bound, that he determined to break it up: The soil seemingly gravel, but found from experiment to be of a marley nature. It was all pared and burnt, in *April* and *May* 1766, as thin as possible; ploughed once, and sown with

of the necks is twisted even to paining the eye.

Unknown. Three small landscapes; companions.

The center one spirited and well finished.

Scarlatti. A madman's brains. This is truly, phrensy embodied.

Viviano. Landscape. Very fine; the colours elegant, and the perspective light, through the rock picturesque.

Unknown. Four small cattle-pieces on copper. The colours very fine, and the design spirited.

Ditto. Landscape; the flight into *Egypt*. Excellent.

Ditto. Landscape; a hermit's cave. The rocks and trees very wild and fine; and the light through the cavities natural and picturesque.

Jan. Steen. Two small landscapes. Pleasing.

Unknown.

turnips. The crop was eat off by sheep, by the middle of *April*. It was then ploughed thrice level, and harrowed seven or eight times, till quite smooth. It was then sown with barley, seven pecks to the acre; and also with 12 *lb.* of white clover, 4 *lb.* of rib-grass, and 4 *lb.* of trefoile. The crop of barley turned out very great; for five quarters *per* acre were sold; besides the screenings and the tythe which was taken in kind; this is an immense crop. In 1768, it was mowed, but not till the latter end of *July*, that the seeds might be quite ripe. The hay was stacked; the stack contained 200-square

Unknown. Two pieces on copper: One a wild romantic wood, trunks of trees, &c. The other, rocks by the sea.—The last pleasing; the colours of both fine.

Borgognone. Two battle pieces. Done in his wild rough manner, but exceedingly spirited.

Unknown. A cat's and a grey-hound's head: The latter exquisite.

Ditto. Dogs and dead game: Good: Their postures fine.

Ditto. *Diana*; most admirable finishing: Nothing more exquisite than the naked; but incomplete where it ought to be most highly touched.

Ditto. *Saturn* and *Ops*. *Ditto.* Exceeding fine.

Ditto. *Paris* and the three goddesses. Exquisite finishing: Their attitudes varied, and the naked elegant.

Unknown.

yards, and Mr. *Smelt* calculates that a square yard weighs 14 stone, which makes it 17 ton 10 cwt.—The after-grass in one month has maintained 22 beasts, and will maintain them a month or six weeks longer.

It is of particular consequence to know experimentally, that these grasses will, without the assistance of hay seeds, make a good pasture: The husbandry of sowing them must be far better than the chance medley of a hay loft.

Buckwheat as a manure this very sensible cultivator has tried. He ploughed nine acres in, in full flower; a very fine thick crop:

Unknown. Hercules and Dejanira. Incomparably finished.

Ditto. Seven pieces of fruit, &c. Pleasing.

Ditto. A fish-piece, excellent.

Ditto. Ditto and cellery. Ditto.

Ditto. Another of fish. Ditto.

Ditto. Two cattle-pieces. Very pretty.

Ditto. Woman with two children.

Ditto. A *Magdalen*. Attitude and colour most pleasing and delicate.

Ditto. *Cupid and Psyche*. Incomparably finished.

Ditto. *Pan and Cyrenx*. Fine.

Ditto. *Venus* and a sleeping *Cupid*. Exceedingly fine finishing, expression and attitudes.

Brughe. Two figures with fruit and fowls, &c. &c. most capital. The hen in the basket is absolute life; the boldness of the relief one would think beyond the power of paint;

It was mown and turned in directly. In three weeks it was quite gone; but the soil had no appearance of blackness nor richness, nor did it lighten it. It was sown with rye; a good crop, but not better than common, without any manure at all.

Mr. *Smelt's* method of curing old hide-bound mossy grass, is by harrowing with a common harrow, loaded with a weight: It requires four horses, and cuts an inch and a half, or two inches deep. It should go both ways across the field. This operation alone will improve it greatly; but if you add a sprinkling of grass-seeds, and some well-

paint; for the hollowness of the basket, and the representation of space between the twigs and the hen, incomparably done. The ducks also excellent. The colouring of the whole picture strong and natural. But the vacancy, the unmeaning inanity of the woman's countenance, beyond conception. In some subjects where ideotism was wanted, she would figure nobly.

Hanibal Carrache. An old woman sitting in her chair and reeling. The expression of this piece is surprizingly great. The face and hands most incomparably done—they are nature itself—the drapery a most true imitation; the attitude easy and natural: In one word, the whole piece greatly executed.

Unknown. Two *Venetian Gondoliers* at cards. Great strength of expression.

Gipsolphi.

rotted manure, it will then totally destroy the moss, and be attended with very great profit.

This gentleman has generally had three-fourths of an acre of potatoes every year, for these ten years. His method of cultivating them is this; he manures for them with four loads of long dung, to lighten rather than enrich. He sets them in rows 15 inches asunder, and ten inches from set to set, in the furrows after the plough. Those which have more than one eye he slices; 15 bushels plant an acre; and the end of *April* is the time he usually performs it in. When just up, the ridges are harrowed down, and

Godolphin. Two pieces of architecture. Very fine. The two figures with spears wonderfully spirited.

Holbein. Portrait of Count *Bragadino*, a *Venetian* nobleman. Fine.

School of Raphael. Virgin and Child. The common attitude, but very graceful and fine.

Lely. King *Charles II*. The frame cut out of the royal oak; and the king's privy seal upon it; viz. a *Cupid* drawn in a car by a lion and a goat; under it written *Charlotte Litchfield*.

Ditto. Lady *Litchfield*.

Kneller. Earl of *Litchfield*.

Ditto. Lord treasurer *Godolphin*.

Ditto. The Great Duke of *Marlborough*.

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R

then

then thrown up again with the plough. While growing, they are kept clean from weeds. The product has been, upon an average, 100 bushels from the three roods.

These very well designed and accurately executed experiments are such, that every understanding reader will join with me in acknowledging their merit. It is to be regretted that this gentleman did not apply more of his farm to experimental agriculture, for this specimen proves the justness of his ideas of correct farming.

The Leases is a beautiful *ferme ornée*. The situation is very fine, commanding a most extensive and lively prospect, and Mr. Smelt has ornamented it with much taste.

Another little excursion from *Kiplin* was to *Hornbycastle*, the seat of the earl of *Holderness*; now receiving great additions and improvements: It will be an excellent, convenient, and agreeable house; commands a most noble prospect of the whole country in front, the environs abounding with capabilities of all kinds.—But one uncommon circumstance should not be forgotten: It is true magnificence: All the by-roads through his lordship's estate are admirably good, superior to most turnpikes, and all done at his own expence. Too much cannot be said in praise of such a conduct: It is noble.

Near

Near the castle, observing some grafs-fields more level than common in this country, (for most of them are in ridge and furrow) and enquiring the reason, I found they were of his lordship's doing, and in a very complete manner. The land was fallowed for two years, then sown with grasses alone, and the first crop left to rot upon the ground; that is, three years were employed in gaining the grafs: But such methods are much too expensive to be imitated any where *.

* * *

This was the account I received of the laying those fields to grafs; but the intelligence was wholly a mistake: However, I let it stand as it was, that the following

* I returned to *Kiplin* by *Kirby*, one of the seats of *William Aislavie, Esq*; of *Studley*, and the grounds greatly ornamented by him. They chiefly consist of a range of high land, winding through a large valley, the edge of it planted, and temples, &c. built at those points which command the best views: At the bottom a stream winds in a beautiful manner and forms several cascades: The principal prospect is from a temple about the middle of the plantation; from which you look down upon the river very picturesquely, and command a very noble prospect over a fine country, beautifully variegated with woods, villages, scattered houses, inclosures, &c.

explanation may be the better understood. The earl of *Holderneſſe* did me the honour of communicating the real ſtate of the caſe in a letter, which he alſo allows me to infer here; I do it with the utmoſt ſatisfaction, not only from its correcting an error of conſequence, but becauſe it is a piece full of maſterly obſervations; and diſplays the moſt accurate knowledge of the principles and practice of agriculture.

“ Sir,

Sion Hill, Dec. 8th, 1769.

“ The entertainment and inſtruction I found in reading your former publications, made me impatient to peruſe the *Six Months Tour*; and I naturally turned to that part of the book, wherein mention is made of ſome poſſeſſions of mine. Had I known of your intention of viſiting the north of *England*, (for your advertiſement never reached me) I would have contributed my mite to the ſucceſs of a project, undertaken upon ſuch publick ſpirited motives, and which you are ſo well able to execute, either by meeting you at *Hornby* myſelf, or by providing you with an intelligent guide, as I think you would have found ſomething there worth your obſervation. The information you received concerning ſome fields that I had laid to graſs, is ſo imperfect, that I beg to trouble you with a few lines, to ſet that matter in a fairer light.

The

The soil of the fields in question is strong, deep, and sound, a mixture of clay and gravel, with many large stones, tough and difficult to work; they had been in tillage time immemorial, never cross-ploughed, and four exhausting crops taken, to one ill managed fallow, lime constantly laid on as manure, in large quantities, which had increased the natural tenacious quality of the soil to such a degree, as to require uncommon strength, both of team and tackle, to get through it. With such management, it is needless to tell you, the land was overrun with weeds; those even were so stunted, as evidently to demonstrate its impoverished state. The stubble had been injudiciously broke up, in a wet season, in spring, and a second ploughing in *August*, served only to tumble huge and unbroken clods from one side of the furrow to another: This, Sir, was the first summer fallow you heard of, and under these circumstances I entered at *Michaelmas* 1759.

As soon as harrows could be of service, very heavy ones were employed, and the land laid up in ridges for the winter; in 1760, they were exceedingly well ploughed, in dry weather in *February*, and well wrought, by a good ploughman sent from hence, till *Midsummer*; when, though five times ploughed, and 17 times harrowed, I still found them foul, and far from fine; so

that a second fallow (if the first deserves the name of one) appears to me the only means of recovering land, that had been so exceedingly ill used: Accordingly it was summer and winter fallowed; couch, and other trumpery that escaped the harrow, picked by hand, the large stones cleared off, and sowed in spring 1763, with white clover, rib-grass, yellow trefoil, and common hay-feed, *without corn*; a method *I approve and practise in all circumstances*, but which was absolutely necessary in fields impoverished by so many crops of grain.

The produce was eat off by horned cattle, the land having first been sufficiently rolled; the fields were well manured with stable dung that winter, and have been ever since, and continue to be excellent pastures.

Some hundred acres of that estate were in a similar exhausted state, soils different; many of them of a lighter kind, had not received so much detriment by the frequent use of lime. Between the years 1759, and 1766, I have laid them all down with different management, according to circumstances; and upon re-letting them, have found all the advantages you mention in your *Farmer's Letters*, p. 151, and 152. I must add, that they were all laid down *without corn*; nor have I any reason to repent of that management.

I shall

I shall rejoice at an opportunity of conversing with you, upon farming affairs; and am, with great truth and regard,

SIR,

Your most obedient humble servant,

HOLDERNESSE.

P. S. It is much to be lamented, that the proper use of so excellent a manure as lime is not better understood; in great quantities it is certainly detrimental to heavy soils.

His Lordship in this letter accounts for his conduct in the clearest and most rational manner, nor can there remain a doubt of the excellence of the husbandry. The soil, it is evident, was in no order to lay down the first year; in which case good management certainly required another fallow.— But the peculiar circumstance of these fields having been exhausted, not only by common bad husbandry, but also an improper use of lime, is decisive; for two such agents united, are enough to ruin the best of soils; and must undoubtedly render such spirited husbandry as here applied, doubly necessary.

His Lordship's remark on the immoderate use of lime, is extremely just: The farmers in the north apply it without bounds: did they but consider its nature, they would

not ruin so much land by it. Lime certainly is a mere *stimulus*, even its dissolvent quality can be called by no other name: If the soil is rich and well cultivated, lime is of great service in forcing the earth to yield its fertility; but if the soil is poor or badly cultivated, its exertions are beyond the tone of the earth; and forcing too much, when it has nothing to act upon, reduces the soil to a far worse state than is in the power of the greatest sloven to do, without the use of such a *stimulus*. The vilest husbandry will not reduce land to a *caput mortuum*, unless lime is used; but with that assistance you may nearly reach it.—The extreme excellence of lime on a certain soil, which cannot be over limed, strongly proves the truth of this observation: It is the black peat-earth, which being an absolute dunghill, the lime has always plenty of vegetable food to work on. Upon the same principle, I should think, lime might be safely used on grass-land; for turf being always acquiring riches, the lime cannot be without the same food. Upon arable land the great point is therefore to proportion the lime to the dung, or other rich manures: the better your land is, the more you may lime; instead of which, Lord *Holderneffe*'s tenants (and too many others) limed in proportion to the poverty they brought on the soil; the consequence of which

which must be the total ruin of it; until
a better system took place.

As I leave this place to-morrow, intending to take *Swinton* next in my rout, through the towns of *Bedale* and *Masbham*, I shall conclude this letter. Believe me ever to remain, &c. &c.

Kiplin.

L E T T E R . X I.

WILLIAM DANBY, Esquire, of *Swinton*, has enabled me to give the following account of the husbandry about that place.

The soil consists chiefly of loam and gravel; lets from 8*s.* to 25*s.* *per* acre. (These are the old lands, not the moor-side farms; of them hereafter.)

Farms rise from 5*l.* to 40*l.* a year, some few of 60*l.* Their courses are,

1. Fallow—2. Wheat—3. Beans.

Another :

1. Fallow—2. Wheat—3. Oats.

Another :

1. Fallow—2. Barley—3. Turnips.
This is the cart before the horse.

For wheat they plough four or five times, sow from nine to eleven pecks, about *Michaelmas*, and reckon the average crop two quarters and a half. They plough three times for barley, sow from 10 to 12 pecks in *April*, and gain at a medium the same quantity as of wheat. For oats they give but one stirring, sow four bushels and a half in *March*, and reckon the mean crop

at three quarters. They give but one earth for beans, sow as much as of oats, the end of *February* or the beginning of *March*, broadcast; never hoe; the crop two quarters; use them for horses and hogs, and also grind them into meal, for cows and fatting cattle. They plough but once for pease, sow nine or ten pecks in *March*; the crop the same as of beans. They give four or five earths for rye, sow 10 pecks, as soon as the wheat is in the ground, and reap upon an average 20 bushels.

For turnips they give four ploughings, sow them the end of *May* or beginning of *June*; it is known among the farmers that such a practice as hoeing exists, and some of them begin to talk a little of it, but very few have practised it. The average value per acre 2 *l.* 10 *s.* They feed them off with sheep, use them for milch cows, and the finishing fatting oxen that have had the summer's grass.

They plough once or twice for rape, sow at the end of *July*, never feed it; the average crop of seed four quarters: Sow wheat after it. They know nothing of clover.

In the management of their manure, they are very little attentive to the raising large quantities in the farm-yard; for they never chop the stubbles, and feed all their hay in the fields. Their principal dependance is upon lime, of which they lay from one to two

two and a half chaldrons *per* acre, at the expence of 8 s. a chaldron, besides the leading. The improvement lasts good for two crops: But unless it is laid on very early, it does better for the second than the first. Some farmers, much more spirited then the rest, mix it with earth; a chaldron to six or eight loads of good loam: They lead it hot out of the kiln, slack it, and then mix it. They leave it three or four months, and then adding some dung to the heap, turn it over all together a second time. They lay it upon grass land at the rate of thirty three-horse cart loads an acre: and find the improvement very great: This is certainly excellent husbandry, and cannot be too much commended.

Good grass lets from 20 s. to 25 s. an acre: It is used chiefly for the dairy; one acre and an half they reckon sufficient for keeping a cow through the summer, or seven sheep. Their breed of cattle is the short horned, which they reckon much the best. The annual product of a cow 5 l. and four gallons of milk a day the average quantity. To ten cows they keep three or four swine. A dairy maid can take care of 10 or 12. The winter food is chiefly hay, (very little straw) and each cow in general eats two good acres. Till calving they keep them in the field, but in the house afterwards. The summer joist from 20 s. to 25 s. The calves

calves for the butcher suck a month, but for rearing only 10 days.

Their flocks of sheep rise from 20 to 60; the profit they reckon at 10*s.* each. They keep them through the winter upon hay and turnips, besides grass. The summer joist is 5*s.* and the winter the same. To keep them through *April* and part of *May* they reckon worth 6*d.* a week. The average fleece four pounds and an half.

In tillage, they reckon three horses and two oxen, or five horses, necessary for the management of 50 arable acres. They use four horses, and four horses and two oxen in a plough, which do scarcely an acre a day. Five shillings *per* acre the price of ploughing; and the common depth of stirring about five inches.

The annual expence of a horse, shoeing included, they calculate at 7*l.* The summer joist is 45*s.* and that of winter 1*s.* 6*d.* a week. The winter food of their oxen is straw, on which they work them, but in spring they give them some hay with it. Oxen they reckon much the steadiest draught, and to plough the land the best, but horses are more liked in general.—The time of breaking up the stubbles for a fallow various, but never before *Christmas*.

They know nothing of cutting straw into chaff.

In

In the hiring and stocking of farms they reckon 250*l.* requisite for one of 50*l.* a year.

Land sells from 35 to 45 years purchase. Estates are all either very little, under 30*l.* a year, or very large.

Tythes are generally compounded, 2*s.* an acre for all the arable.

Poor rates 2*d.* to 5*d.* in the pound, at *Masbam* 10*d.* The employment, spinning of worsted; a woman earns, if industrious, 6*d.* or 8*d.* a day. All drink tea.

The farmers carry their corn six or eight miles.

The general œconomy of the country will be seen from the following sketches of farms.

100 Acres in all	20 Sheep
50 Grass	1 Man
50 Arable	1 Boy
£.65 Rent	1 Maid
5 Horses	1 Labourer
10 Cows	1 Plough
8 Young cattle	2 Carts.

Another :

65 Acres in all	40 Sheep
20 Arable	1 Man
45 Grass	1 Boy
£.40 Rent	1 Maid
3 Horses	1 Labourer
8 Cows	1 Plough
6 Young cattle	1 Cart.

Another :

Another :

250 Acres in all	30 Sheep
50 Arable	2 Men
200 Grass	1 Boy
£. 80 Rent	1 Maid
6 Horses	2 Labourers
4 Oxen	2 Ploughs
10 Cows	2 Carts.
15 Young cattle	

LABOUR.

In harvest, 26 s. or 28 s. and board and lodging.

In hay-time, a mower 30 s. a month, and board and lodging.

In winter, 6 d. a day and board.

Mowing grass, 2 s. *per* acre.

First man's wages, 10 l. to 13 l.

Next ditto, 7 l.

Boy of 10 or 12 years, 3 l.

Dairy maids, 5 l.

Other maids, 3 l. 10 s. to 4 l. 4 s.

Women, *per* day, in harvest, 10 d. to 1 s.

——— in hay-time, 7 d. or 8 d.

——— in winter, 6 d.

IMPLEMENTS, &c.

Very few waggons; but the price 25 l.

A cart, 10 l.

A plough, 20 s.

A harrow, 11 s.

A wooden

A wooden roller, 1*l.* 1*s.*

A stone ditto, 2*l.* 2*s.*

A scythe, 4*s.*

A spade, 4*s.*

Shoeing, 1*s.* 6*d.*

PROVISIONS, &c.

Cheese, - - 2*d.*

Butter, - - 8—22 ounces.

Beef, - - 3

Mutton, - 3

Veal, - - 3

Pork, - - 3 $\frac{1}{2}$

Milk, - - $\frac{1}{2}$ *d.* a pint and a half.

Potatoes, - 3 $\frac{1}{2}$ *d.* a peck.

Turnips, - 3 ditto.

Candles, - 6 $\frac{1}{2}$

Soap, - - 7

Labourer's house rent, 15*s.* to 40*s.*

——firing, 15*s.*

——tools, 6*s.*

BUILDING.

Bricks, 12*s.* *per* 1000.

Oak timber, 1*s.* 2*d.*

Ash, 1*s.*

Elm, 10*d.*

Mason *per* day, 20*d.*

Carpenter, 20*d.*

A thatcher, 1*s.* 6*d.*

Stone walling in mortar.

Fence walls, 2 s. 6 d. *per* rood.

House ditto, 3 s. 6 d. *per* rood.

Farm houses of stone and slate.

But besides this common husbandry, there is in this neighbourhood another, which is that of the farms called the moor-side ones. These are tracts of land that have in process of time been inclosed from the moors, and thrown into small farms: But I should observe, that scarce any of the inclosures have been made of late years; they are all old farms. Many of them contain very large fields of moorland, an hundred acres and upwards in a field, that are all over-run with ling, &c. &c. in as wild a state as any moor, and differing from it in nothing but in being inclosed—and yet the slovenly occupiers have scarce any idea of cultivating them.

The soil of these farms is various, but consists in general of light loams, some sandy, some inclinable to gravel, and much of it black moory earth reduced to loam by a series of culture. Their management is in general to change it from grass to arable, and the contrary, except the best of the grass which is kept such constantly. Their method of breaking up is all by paring and burning, which is done in common at the expence of 16 s. 6 d. *per* acre. The first crop they take is turnips, which are worth upon an average 40 s. an acre, but they are never

hoed: They lime, one chaldron *per* acre, for this crop. Next they sow oats, of which they get 60 bushels *per* acre; then potatoes, of which about 120 bushels *per* acre; after these they sow oats again, and lay down to grafs with them. But this is all relative to land they find in culture, for scarce any spirit prevails among them of breaking up the uncultivated.

One of Mr. *Danby's* tenants, however, *Lightfoot* by name, has shewed in one or two instances somewhat more attention to improvements than the general herd. He has cultivated cabbages for four years, winter fallows the land for them, and sets the rows three feet asunder, and the plants 22 inches; he finds them, both in quantity and use, far beyond turnips; values all he has had at 6*l.* an acre. I asked him what he would take for the present year's crop of three acres; he replied, he would not sell them at all.—Would you take 10*l.* an acre?—" 'Tis a deal of money," replied he, "but I would not part with them at all."—An answer, in the mouth of a common farmer, and that a little one too, after four years experience, decisive with me in respect to the value of cabbages.

He cultivates potatoes constantly, plants 14 bushels *per* acre, and gains 200.

A most excellent manure he has found out, which is a compost of bog earth and lime.

lime; he has used it for some time, and finds that nothing answers so well.

Mr. *Lightfoot* keeps fourteen cows, of which he makes 40 firkins of butter, besides cheese enough for his family, the price 25 s. a firkin. If no cheese is made, he has from six to nine pounds of butter a week *per* cow.

But the object much the most worthy of attention in this country, is the immense tract of moors which back it to the westward. Mr. *Danby* possesses several thousands of contiguous acres, which do not yield him a tenth part as many farthings a year. And among his neighbours, the Duke of *Bolton*, the Earl of *Litchfield*, Lord *Bruce*, Mr. *Aislaby*, and Mr. *York*, likewise possess vast tracts of these waste lands which call so loudly for improvement.

As I was particularly attentive to all the accounts I could gain of these moors, and rode over and examined them several times, I can lay an account of them before you, which is perfectly genuine.

I divide them into the following sorts.

First, The dry moors, to appearance almost covered with grit stone, many of them very large. The spontaneous growth, ling of various height, from one foot to three. The soil a light black moory earth, from 10 inches to a yard deep, and under that a channelly sandy gravel.

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Second,

Second, The same in all respects as the preceding, except the stones which are but few, and scarce sufficient to build the walls for inclosing.

Third, A dry black moory soil as before. The spontaneous growth, ling, whins, and brakes.

Fourth, The same soil, but the spontaneous growth, whins and brakes.

Fifth, A dry soil of a lighter colour, and some of the abovementioned black earth: The spontaneous growth, a benty kind of grassy turf. I know not how to describe it. In the north they call the soil that bears it *white land*, also the same soil yielding that production, and whins and brakes at the same time.

Sixth, Very wet boggy moors, out of which peat is dug. The spontaneous growth scarce any thing but straggling stunted ling.

Seventh, Ditto, but the spontaneous growth turf (*whiteland*) alone.

Eighth, Dry found light loam of various depths, from one foot to five; the spontaneous growths, common grass alone, or grass and whins, or brakes.

I am sensible that more divisions might be made of these soils; but the above will be sufficient to explain my meaning. The wet and dry moors it may be supposed vary in

in degree by gradation, until it may be difficult to pronounce whether they are wet or dry: And the spontaneous growths intermix in the same manner; but the above characteristics are to be understood as marking principally the nature of the land.

All the stone hitherto discovered is of a very soft gritty nature, that cuts easier than wood: No lime-stone.

The experimental knowledge of the nature of these soils is yet but in its infancy: The moor-side farmers have done scarce any thing; but another source of some valuable information must not be overlooked.

A thin seam of coal is found under these extensive wastes and wilds. Mr. *Danby* has a colliery upon the edge of his moors, which employs many hands. The cottages of the colliers, are scattered about at no great distance. Each had at first a small garden, which, from the great foresight and refined politicks (for I can give the conduct no other name) of their landlord, grew into little farms.

Miners in general, I might almost say universally, are a most tumultuous, sturdy set of people, greatly impatient of controul, very insolent, and much void of common industry.—Those employed in the lead mines of *Craven*, and in many collieries, can scarcely, by any means, be kept to the performance of a regular business; upon the

least disgust, they quit their service, and try another. No bribes can tempt them to any industry after the first performance of their stated work, which leaves them half the day for idleness, or rioting at the alehouse.

Mr. *Danby* partaking of these inconveniences in common with his neighbours, struck upon a remedy which sufficiently displays his knowledge of human nature. —“If,” said he, “I can give these fellows a better notion of a local property and happiness, I shall gain a power over them, which I can easily turn to their good, and the benefit of their families, as well as to my own convenience.”—He executed the thought, and it has succeeded to admiration.

Observing some of the men (that had a little industry in them,) to cultivate their gardens better than their comrades, he made them an offer of inclosing from the moor a field for each, contiguous to their gardens, that they might raise their own corn instead of buying it. Which was accordingly done, and no additional rent taken for it.

Two or three tolerable examples had great effects: By degrees, others applied for the same favour, which was always readily granted; and, in the course of some years, very few of the cottages remained without a field adjoining. The husbandry in them was nothing very accurate, but it was of great service to the families, and

answered

answered their landlord's purpose of rendering them more dependant, though at the same time more happy. One fellow arose among them, (of whom more hereafter) who set them an example of much better husbandry, insomuch that now there is not a collier without his farm; each from three or four to 20 acres of land. Most of them keep a cow or two, and a galloway: raise the corn, &c. they eat; are well fed, well cloathed, industrious and happy. Their time is spent at home instead of the alehouse:—those young fellows, who formerly were riotous and debauched, now marry, settle, and become the honest fathers of a laborious and valuable race of children. Nothing is so much desired as a little farm; which, being a reward for industry and sobriety, becomes an incitement to a continued good behaviour: And by this well-concerted conduct, the whole colliery, from being a scene of idleness, insolence, and riot, is converted into a well-ordered and decently-cultivated colony: It is become a seminary of industry; and a source of population.—Great is the merit of being so offended at vicious habits as to determine their eradication,—to project a scheme of reformation, as beneficial to the public as himself,—to conduct it through all the difficulties of overcoming and changing human nature herself—to convert a den of thieves and rascals into honest

and industrious subjects;—this was effected by Mr. *Danby*, and without the violence of a *Sextus*:—he planned with the sagacity of a *Machiavel*, and executed with the humanity of a *Trajan*.

But to return to the point in question.

Looking over some of the fields of these colliers, and asking them after their products, I found they all break up their land by paring and burning, and sow turnips upon it; sometimes raising them as large as a man's head: Oats the next crop, of which they get from 40 bushels upwards; 66 bushels have been gained from half an acre: 120 bushels of potatoes they frequently raise upon the very worst land. They likewise sow wheat, rye, and mallow, and get very good crops. But all lay down to grass as soon as proper. They lime it well. Mr. *Danby* is at the expence of walling in any quantity of the moor in fields contiguous to their farms, provided all their former land is well cultivated. They have it several years for nothing, but afterwards pay a trifling rent, that they may not grasp at more than they can cultivate after their day's work in the mines is over.

The best intelligence I gained was of *James Croft*, one of the colliers. But this man deserves a more particular attention.

Thirteen years ago he began his husbandry by taking an acre of moor, which

he pared and burnt, spread three chaldrons of lime among the ashes, and sowed it with oats, of which he got but an indifferent crop. He next threw in three more chaldrons, planted half of it with potatoes, and sowed the other half with maclin; the crops middling. He then limed it again, sowed it with oats, the crop 35 bushels. After another liming, sowed it with oats, and gained 50 bushels. Next he limed it again, and sowed half of it with barley, and planted the other half with potatoes; the crops but indifferent. He then limed it again, and sowed oats once more, of which he got 40 bushels; with these oats he sowed hay seeds, all he could get together or procure, which was 36 bushels. After the oats were off, he mixed some lime and earth together and spread over the land: The grass came very finely, and has been exceeding good ever since, and improving every year, it is now worth 20 s. an acre: I viewed it attentively, and think it well worth that rent.

This first essay was very spirited, but not carried on upon principles which can be altogether approved of: Indeed it could not be expected that a poor collier should strike at once, and without any experience, into an accurate and correct husbandry.

His next effort was upon an addition of eight acres, which however were too much for him to improve at once, but he effected it

it all by degrees. These acres were exceeding stoney, so that after a division by walls built out of them, many remained; one acre cost him two months to clear and fill up the holes. Some single stones required near a week. Laborious as the work was, he completed it by degrees, and pared and burnt the soil: He threw these lands into a better husbandry (though not totally defensible) than what he used before. His method was to sow turnips upon the pared and burned land, after liming two chaldrons *per* acre, which costs, by the time it is on the land, 14 s. 6 d. a chaldron. The turnips are generally worth from 20 s. to 30 s. an acre. He draws and scatters them on his grafs for his cows and young cattle.

After the turnips he ploughs four times, lays on two chaldrons *per* acre more of lime, and sows oats, eight bushels *per* acre; the crop varies from 40 to 60 bushels.

After these oats, he sows four more successive crops of them; for each of which he ploughs three or four times, and also limes at the rate of two chaldrons *per* acre. The average of these crops is 40 bushels *per* acre. With the last he lays down to grafs, by sowing plenty of hay seeds.

This has been his general course, but sometimes he has sown rye, of which he generally gets 32 bushels *per* acre. Potatoes he has regularly cultivated; sets them in rows

two feet afunder, and one foot in the rows ; in which manner 13 bufhels plant an acre ; the mean produce is 158 bufhels.

Two years ago, he took in eight acres more, on which he is now hard at work. It is aftonifhing with what perfeverance he attacks the moft enormous ftones, cutting them in pieces, carrying them away, and then bringing mold to fill the holes up ; and he has fuch an idea of neatnefs, that he will not pafs one.

He has five acres of grafs ; his management of which is very good : He lays all the dung he can raife upon it, mixed well with lime ; and fometimes with good earth. And this dreffing he repeats every third year, without ever failing. His flock of cattle is three milch cows, a heifer and his galloway ; their winter food hay, turnips, and ftraw. Two acres of commonly improved grafs (from moors) he reckons fufficient to fummer-feed a cow, but an acre and an half of *his* will do. He makes 6 *lb.* of butter *per* cow *per* week, 24 ounces to the *lb.* for three months, and 4 *lb.* the reft of the fummer. And each of his cows eat an acre of hay in the winter. He has not yet had enough of his own for them, buying fome, but hopes foon to effect that.

Befides the mere hufbandry of his fields, he has done fomething in the ornamental way ; having almoft furrounded two of his
clofes

closes with a young plantation of firs and other trees, which thrive extremely well.

Attentive to every object that can render his little farm either profitable, convenient, or agreeable—he has with no slight trouble directed a little rill of water from the moors through his fields; by which means he not only has water in every field for his cattle, but can also water some of his grafs, and thereby fertilize it much.

Were I to dwell upon every circumstance of this collier's husbandry, I should be afraid of tediousness, but I shall not conclude without attempting to give you some idea of the MAN, as well as his *farm*.

I have shewn you how he has managed for several years above nine acres of land, much of it always in tillage, and some constantly fresh breaking up, and improving: —We have found him cropping his land several years successively, (a practice though bad, yet of increasing labour) never sowing any without a previous ample liming, and three or four ploughings; —adding to his cultivated land, by perfectly clearing the fresh soil from all stones, some of them of an enormous size, of many tons weight; and by paring and burning, in the most spirited and laborious manner. —When you consider these circumstances, and that at the same time he has had the courage to attack eight acres more, —will you not conclude

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he has received much assistance either of money or labour; or that many favourable circumstances hitherto unrelated have enabled him to make such advances in so spirited a conduct.

But the very contrary of all this is the case. His work in the colliery has been regular, equal in every respect to the other men, and in some superior: His hour of going to the mine is 12 o'clock at night, the work and time of meals are over at noon the next day. The remainder is all he has had to perform what I can scarcely call less than wonders: Nor has he ever received the least assistance of any kind, or ever expended one shilling in hiring the labour of another man. The quantity of lime he has laid on his land is very great, and much more than what is commonly used by the neighbouring farmers; the number of ploughings he has given his fields is equally superior; and yet all this labour has been performed with a single galloway;—the lime brought six miles. It is astonishing what a spirit of perseverance must have actuated this extraordinary man, to execute, with such slight engines, works that will put many farmers with teams to the blush.

Some assistance in weeding potatoes in harvest, &c. and such slight work, he has received from his family; but you may suppose it not considerable; when I tell you that,

that, of four or five children, he has only one son about 14 years of age, who works with him constantly in the colliery.

From the time of leaving off work in the mine, till that of sleeping, he has regularly spent in unremitted labour in his farm. Since his beginning he has never had more than four hours sleep, and, of moon-light or bright star-light nights, seldom so much. The regular severe fatigue of the colliery has not been sufficient to bow down the spirit of this poor fellow;—he applies the remainder of the day, and even steals from the night, to prosecute his favourite works of husbandry—that is, to make up his hours of work TWENTY, out of the twenty-four.

Such a conduct required a genius of a peculiar cast. Daring in his courage, and spirited in his ideas, the most extensive plans are neither too vast nor too complicated to be embraced with facility by his bold and comprehensive imagination. With a penetration that sees the remotest difficulty, a prudence and firmness of mind that removes every one, the moment it is foreseen; we attribute the wonders he has performed to the powers of his mind, and almost forget that the whole which is executed of his ideas has been the work of his own hands. The severest fatigue, the most assiduous labour have been unable to quench the fire of the one, or repress the vigour of the other.

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The greatest and indeed the only object of his thoughts is the improvement of the wilds that surround him; over which he casts an anxious, but magnanimous eye, wishing for the freedom to attack, with his own hands, an enemy, the conquest of whom would yield laurels to a man of ample fortune.

I asked him what he would do if he had his whole time to apply to his farm, "I would perform something:" said he, "at present I do nothing." Hinting to him that I would mention to Mr. *Danby*, the releasing him from the colliery, that all his time might be applied to farming,—his countenance was animated at the very idea,—his eyes sparkled with pleasure.

Upon my asking him, if he did not think every part of the moors were highly susceptible of improvement — "Improvement! Sir," he replied with eagerness, "there is not an acre but might be made as good land as a man would wish to farm."

Upon my asking him further, if he thought he could improve a larger tract than was within the power of one pair of hands, by having men, horses and carts, &c. put under his direction? "Aye sure," he replied, "for it is nothing more than extending the proportion of ten acres to a great number. It would be hard indeed, Sir, if a man that had improved ten acres with his own hands, could

could not direct the improvement of an hundred or a thousand."

What would you do if any unthought-of accident gave you an hundred pounds?
 "Lay it all out in improving land."

I had a long conversation with him upon these subjects; and found him very sensible, spirited, and most enthusiastically devoted to the improving of moors. His ideas are clear and shining; and though his language is totally unrefined, and provincial, insomuch that some attention is necessary to comprehend the plainest of his meaning, yet whoever will take the pains to examine him, will find him a genius in husbandry: A diamond of the first water, but so buried in the obscurity of the mine, as to be scarcely distinguishable from the vulgar rubbish that surrounds it.

The view of this remarkable man's little farm, and the conversation I had with him upon the improvement of moors, a point of such vast importance in this country, prejudiced me so much in his favour as to make me wish it were possible to enable him not only to add greatly to his farm, but to conduct the culture of it upon a spirited plan.

I mentioned it to Mr. *Danby* (who had at first introduced me to him as an extraordinary fellow) and he agreed with me that his being a collier spoiled a good farmer,

addings

adding, that he had thoughts of giving him more land, and also releasing him from the coal-mine. This gave me much pleasure, not doubting but so spirited a mind, with a body so active and vigorous, would alone do wonders.

But having since reflected further upon the effects which might be drawn from the labours of this poor but most industrious fellow, I cannot but think it much to be regretted, that the nation at large should lose the benefit that might be made to result from the labours of a genius in the most useful walk of all others.

In a word, it is greatly to be wished, that the man might be supported in such a manner, as to enable him to do something more than is possible for his own hands to perform. In so confined a situation, he must unavoidably be under such difficulties as will not allow him to set the example he would, were his endeavours extended to a larger sphere.

Had this man (by prudent and gradual additions) servants, horses, carts, implements, in a word, the whole stock of a farm given him, and 50, 60, or 100 acres of moor-land added by degrees, with barns, stables, &c.——or fixed properly in a very wild bad moor farm, (for I would never give him improved land to cultivate) I have no doubt but he would set an example of improvement

provement that would have excellent effects upon this uncultivated region; and convince those who doubt of the profit of cultivating moors, that no method whatever of expending money is so highly advantageous.

As a national benefit, I much wish that something of this sort could be done for this uncommonly industrious fellow: The object is too much to expect of one person, and greatly superior to my fortune, but if the FRIENDS OF IMPROVEMENT, in this age of public generosity, would charitably subscribe a trifle for forwarding this genius, the design would be worthy the warmest praise; and the effects, in all probability, answerable to the most sanguine expectations.— I venture however to throw out this hint; and if any of my readers are inclined to support this poor, but honest little cultivator, they may pay any trifle they think proper into the hands of Mr. Nicoll, in St. Paul's church-yard, the publisher of this book, and I will engage that the sums so subscribed shall be applied in the best manner, for the advantage of *James Croft*, and the names of the subscribers, with their respective sums and the disposition, inserted in the public papers; desiring in the mean time to write my own name, with one guinea, at the foot of the subscription *.

* The following are Correspondents of Mr. Nicoll who will receive any contributions.

But to return to the moors themselves.

Those wherein the colliers farms are situated must be ranked under my *first* head of divisions, and are consequently of a very bad and unfavourable nature; and yet we find from the preceding minutes, that the products are very considerable. The common fellows gained turnips as large as their heads—oats from 40 bushels to 132,—and 120 bushels of potatoes. *Croft* got 60 bushels of oats the first crop, and then four more successively of 40 each,—four quarters of rye—and 150 bushels of potatoes.

Barnsley,	Mr. Bent.	Lancaster,	Mr. Ashburner.
Bath,	Mr. Leake.	Leeds,	Mr. Wright.
Birmingham,	Mr. Pearfon &	Lincoln,	Mr. Wood.
	Co.	Lynn,	Mr. Hollingf-
Bristol,	Mr. Cadell.		worth.
Bury,	Mr. Green.	Manchester,	Mr. Harrop.
Cambridge,	Mr. Fletcher &	Newcastle,	Mr. Slack.
	Co.	Northampton,	Mr. Lacey.
Chester,	Mr. Lawton.	Nottingham,	Mr. Berrow.
Cosentry,	Mr. Jopson.	Oxford,	Mr. Jackson.
Darlington,	Mr. Darnton.	Peterborough,	Mr. Knapp.
Derby,	Mr. Roe.	Richmond,	Mr. Craggs.
Dublin,	Mr. Williams.	Sallop,	Mr. Eddowes.
Durham,	Mr. Ladler.	Southampton,	Mrs. Remakle.
Edinburgh,	Mr. Balfour.	Stamford,	Mr. Nott.
Exeter,	Mr. Thorn and	Stockton,	Mr. Pickering.
	Co.	Tunbridge,	Mr. Baker.
Glasgow,	Mr. Stalker.	Wakefeld,	Mr. Rayner.
Gloucester,	Mr. Raikes.	Warrington,	Mr. Banks.
Hallifax,	Mr. Edwards.	Winchester,	Mr. Burdin.
Hersford,	Mr. Pugh.	Yarmouth,	Mr. Eton.
Hull,	Mr. Brown.	York,	Mr. Ethering-
Islewich,	Mr. Shave.		ton.
Island,	Mr. Ashburner.		

Now it is very clear, that the land (with proper liming) that will yield such productions, and with no better ploughing than can be effected with a single galloway, must in its nature be very good; five successive crops of oats, one would apprehend sufficient to exhaust any soil, but this land evidently stood it well, from yielding good grass afterwards, which I examined.—While we viewed *Croft's* fields, Mr. *Danby* asked his steward, who was present, what he could let such grass as all *Croft's* at per acre? He replied, In quantities of any extent at 15 s. per acre, but in small parcels of 20 or 30 acres at 20 s. An improvement which is astonishing, from land that was absolutely and totally waste. But the goodness of it also appears from *Croft's* stock of cattle, and the quantity applied to feed a cow, which will be found not more perhaps than the medium quantity, through the cultivated countries of this whole tour.

It is from all these circumstances evident enough, that this kind of moor-land is amply capable of improvement; and that there is nothing in the nature of the soil which gives any reason to doubt of rendering it exceeding good land. These facts are totally indubitable.—The material question is, the profit attending the improvement. The greatest enemies to the cultivation of moors allow that they are capable of
being

being made good land; they only deny the expediency of the business. Let us therefore, in the next place, consider that point.

But first I should remark, that the *third* division of moor-land, given above, is of a much superior quality to the first and second, brakes and whins being allowed by all the neighbours of the moors to be sure signs of good land; consequently the *fourth* is better than the *third*. The *fifth* division is universally allowed to be better than any soil that is black and yields ling. The *sixth*, that is the boggy moors, are reckoned in the north very bad, but I believe rather from the superior expence of the improvement, than from experimental knowledge. The *seventh* soil is reckoned much better than the sixth. As to the *eighth* division, it is needless to mention it, being of itself only, with inclosing, richly worth 15s. an acre.

From this slight review, it is plain that the great point is the improvement of the *first*, *second*, and *sixth* divisions, they being not only the most doubtful, but much the most common species.

The first business in all improvements is the inclosure, which, upon many of the moors, is a matter of no difficulty to determine, as immense tracts are absolute property, without any right of commonage.

The only method of inclosure used here is that of stone walls, and most excellent fences they are : The stones scattered over the land they loosen from the earth, and split them with wedges into small pieces ; these they lay upon each other very artfully, building with them the walls, which are not only very strong (lasting in full perfection beyond the memory of the oldest man), but have likewise a neat and good appearance. A small addition of expence will cut them all into regular oblongs, which make them look to the full as well as any the most regular brick walls.

The expence of cutting (in the common manner), leading, and building the walls seven quarters high under the cap stones, is 7*s.* * *per* rood, of seven yards running measure.—The gate-posts are of stone, and excellent ones ; their cost scarce any thing ; a gate, irons, and posts, cost 10*s.*

Upon these data we will proceed to calculate the expence of inclosing a given number of acres.

In a square mile of land there are 640 acres ; such a tract divided into fields of 71 acres each, will lie as in plate IV. fig. 1.

* The price inserted in the first edition was 5*s.* 6*d.* a rood, and so my intelligence ran ; but Mr. Danby has been kind enough to inform me that the price is now higher.

each line a mile long ; consequently there will be eight miles of walling,—also ten gates.

The expence will be,			
Eight miles, at 7 s. a rood,	-	£. 700	
Ten gates, &c. at 10 s.	-	-	5
Total inclosing,	-	-	£. 705

In the next place, the buildings necessary are to be considered ; these are a large barn, stables, cow-house, and hog-sties, besides the dwelling-house. All these I was informed by several gentlemen in this country of large estates, could be raised of stone and slate, for 300 l. but to obviate objections, I shall suppose 400 l.

It should be here remarked, that scarce a square mile of moor is to be found which would not be cleared of stones by these divisions, and the buildings ; the very stoney parts being seldom of greater extent than from 10 to 30 or 40 acres : It would be an advantage to have such a spot in a square mile, as much of it probably would be found with an insufficient quantity of stone to divide itself. At first sight, the stoney moors appear very tremendous with an eye to improvement, but a little experience will shew these formidable stones in a much more advantageous light. A gentleman who has a large range of waste property, may as

easily throw a stoney spot into the middle of his improvement, as leave it on one side, and then the buildings will be erected as it were in the midst of a quarry; the advantages of which are too obvious to require explaining.

The next business is the paring and burning the whole tract. From various and repeated intelligence, and observation, this I am persuaded is the best method of breaking up all uncultivated lands; and, perhaps, I might add the best of lands. The expence is 16 *s.* 6 *d.* *per* acre; or for the 640 acres 528 *l.* But to obviate all objections, I shall call it 20 *s.* *per* acre, or 640 *l.*; which great allowance I make that there may be a greater command of workmen.

Liming comes next, which upon this peculiar tract of moors, is a very heavy expence; as no lime has hitherto *accidentally* been found: I use that term as searching for it in a spirited manner has never yet been done: In the present state of things, lime costs 14 *s.* 6 *d.* a chaldron, carriage included, but, if brought by the cultivator's own teams, would come much cheaper. Two chaldrons *per* acre should be spread with the ashes; it is more than the farmers use, and superior to *James Croft's* annual liming, as this land is not to be cropped as his was. The expence of 1 *l.* 9 *s.* *per* acre is 925 *l.*

These are the great objects of improvement. If a gentleman does not chuse the trouble of farming the land till it is laid down in grafs, he may stop here and let the farm, leaving to the tenant (under proper restrictions) to reap the profit of the whole. Upon this plan we will next state the whole expence.

Inclosing,	-	-	-	£. 705
Buildings,	-	-	-	400
Paring and burning,	-	-	-	640
Liming,	-	-	-	925
Total,	-	-	-	£. 2670

Having formed this calculation, I was very desirous of knowing what the land in that situation would let for; and with this view I applied to Mr. *Danby*, who consulted not only his steward, but several farmers: I likewise asked the opinion of other gentlemen, who had attended peculiarly to these matters: Several asserted that to complete a farm, in such excellent repair, and so thoroughly fenced, all the land improved, and manured, would let with the utmost ease for 15*s.* *per* acre: Others reckoned 12*s.* the value; and some thought 10*s.* would be an adequate rent: The latter is evidently beneath all reason; but, however, I shall take it into the calculation, and strike the average of the three, or 12*s.* 6*d.* *per* acre;

acre ; 640 acres, at that rent, amounts to 400*l.* a year. This income from 2670*l.* is at the rate of 14*l.* 19*s.* *per cent.* The *clear* profit will be as follows :

Rent of the farm,	-	-	£. 400
Interest at 4 <i>per cent.</i>	-	-	108
Clear profit, <i>per annum</i> ,	-	-	292*

If this calculation, founded on the very best authority, and exaggerated in not one particular, does not prove the immense profit of improving moors, nothing can ; nor is there an indisputable truth in all nature. How loudly does it call upon their proprietors to awake from the strange lethargy in which they have been dreaming for so many ages ! The cultivation of a large tract of this land is an object of great importance to the largest fortunes ; for the improvement amounts to near 10*s.* an acre annual income ; and the nobility and gentry in the north do not reckon their moors by hundreds of acres, but by thousands.

But a very great and material object in the improvement of the moors in question

* The tenants keep every thing in repair, so there are no deductions ; likewise an estate gained without a land-tax.

is the discovery of lime-stone; there is lime burnt within a few miles of them every way; I can therefore have no conception but a lime-stone quarry might be found somewhere in so vast a tract of country; that it has not been found, is no argument against the probability; since the only persons that use it are the neighbouring common farmers, who have no ideas of attempting any thing out of the old route, which they and their forefathers have long been used to: An accurate and vigorous search for it has never been made. I have little or no doubt but success would attend such an attempt; and from that moment improvements would be worked at a much less expence; for the greatest article in the preceding account is the lime, at six miles distance.

Before I conclude this state, I shall vary the supposition a little; and suppose that fields of 71 acres would be too large to clear away the stones. I shall therefore suppose the division 40 acres, (see plate IV. fig. 2.) in which case there will be ten miles of walling.

The expence then will be,

Ten miles, and gates,	-	-	£. 881
Buildings,	-	-	400
Paring and burning,	-	-	640
Liming,	-	-	925
			2846

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400 *l.* a year, from this principal, is 14 *l.* 1*s.*
per cent.

Rent,	-	-	-	-	£. 400
Interest of 2846 <i>l.</i> at 4 <i>per cent.</i>	-	-	-	-	114

Clear profit,	-	-	-	-	286
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This proportion will enable you to conceive that of smaller divisions : The remarks before made remain equally applicable to this account, or to that of 20^o acred divisions.

Suppose the land to let at only 10 *s.* an acre, the last account will then be as follows :

Rent,	-	-	-	-	£. 320
Interest,	-	-	-	-	114

Clear profit,	-	-	-	-	206
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And the interest, *per cent.* 11 *l.* 4*s.* I give these variations by way of answer to objections ; but it is granting far more than the case requires.

But farther—suppose there would arise a difficulty in letting farms so large as 640 acres to the tenants of this country, which is a hint I have received from Mr. *Danby* ; he thinks 320 would be large enough ; this makes a variation in the article of building : There must be two sets at 300 *l.* The account will then be as follows :

Rent,

Rent, at 10 s.	-	-	-	-	£. 320
Interest of 3046 l. at 4 per cent.	-	-	-	-	122
Clear profit,	-	-	-	-	<u>198</u>

10 l. 10 s. per cent.

Suppose the square mile be divided into three farms; 900 l. allowed for buildings; the account will then be as under:

Rent, - - - - -	£. 320
Interest of 3346 l. - - - - -	134
Clear profit, - - - - -	<u>186</u>

9 l. 11 s. per cent.

In whatever manner the improvement is calculated, the same conclusion must be drawn; for the profit will prove immense. A landlord would as soon improve for 9 l. 11 s. per cent. as 20 l. per cent.; for the first is as unattainable to him in any other application of his money as the latter.

But in all these modes of improving, I have granted far more than facts required, or would even allow; for if a gentleman would really set about an improvement with spirit, he ought to begin with the firm resolutions of keeping the land in his own hands, till it was laid down to grafs: For then he not only gains the profit of an improvement, but knows the certainty of its being permanent. I shall

shall therefore offer a calculation on this principle; and suppose, for the sake of rejecting complex estimates, that his tillage, &c. is done at the *hiring* prices of the neighbourhood; such prices give the farmers a considerable profit, consequently an improver might go much nearer to work. But I shall suppose such excess, as it will serve to answer many small objections; and as there is a certainty of the work being cheaper done with his own teams.

			<i>l.</i>	<i>s.</i>	<i>d.</i>
Inclosing,	-	-	881	0	0
Two sets of buildings,	-	-	600	0	0
Paring and burning,	-	-	640	0	0
Liming,	-	-	925	0	0
First improvement,	-	-	3046	0	0
One ploughing of 640 acres,					
at 5 <i>s.</i>	-	-	160	0	0
Turnip seed ditto, at 1 <i>s.</i>	-		32	0	0
Sowing at 3 <i>d.</i>	-	-	8	0	0
Twice hand-hoeing, at 10 <i>s.</i>			320	0	0
Total of turnip crop,	-		520	0	0
Three ploughings 640 acres,					
for oats,	-	-	480	0	0
Three harrowings, at 6 <i>s.</i>	-		48	0	0
Carry over,	-	-	528	0	0

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Brought over, - -	528	0	0
Seed oats, 4 bushels <i>per</i> acre,			
at 2 <i>s.</i> - - -	256	0	0
Sowing, - - -	8	0	0
Grass seeds, at 20 <i>s.</i> -	640	0	0
Sowing, at 1 <i>s.</i> - -	32	0	0
Mowing and harvesting the			
oats, at 10 <i>s.</i> - -	320	0	0
Threshing ditto, 6 quarters <i>per</i>			
acre, at 1 <i>s.</i> 6 <i>d.</i> - -	288	0	0

Total expence on the oat crop, 2072 0 0

Mowing, making, carting, and			
stacking 640 acres of hay,			
at 12 <i>s.</i> - - -	384	0	0

The farms are then in order to let: The general account will be as under.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
First improvement, - -	3046	0	0
Expences of the turnip year, 520	520	0	0
Expences of the			
oat year, - 2072	2072	0	0
Deduct the pro-			
duct of turnips,			
at 40 <i>l.</i> an acre, 1280	1280	0	0
		792	0 0
Carry over, - -	4358	0	0

		<i>l.</i>	<i>s.</i>	<i>d.</i>
Brought over, - -	4358	0	0	
Product of the oats,				
at 12 <i>s.</i> <i>per</i> quarter, 2304	0	0		
Deduct expences of				
the grafs year, 384	0	0		
	1920	0	0	
Product of hay: sup-				
pose a load <i>per</i>				
acre, at 25 <i>s.</i> - 800	0	0		
	2720	0	0	
	1638	0	0	
Interest of 4300 <i>l.</i> for 3 years, 522	0	0		
Neat expence on the whole				
undertaking, - -	2160	0	0	

The farms to be then let: I conduct the improvement through the first year of the grafs, that the tenants may have ocular proof of the goodness. Respecting the above charges, the products are all lowered much from the data of the country, and even the worst of these moors, and the expences are raised immensely; I allow 10 *s.* an acre for turnip hoeing, and yet charge the crop at less than the average of unhoed moor-land crops. The oats are much under the produce of the poor colliers, and nothing is allowed for straw and chaff: And in the

the grass year I charge the crop undefens-
sibly low.

The sum of 4358*l.* is there added up, because it is that which an improver should have in his hands, if he goes to work on this plan, as the after-products do not come in time enough for the demand ; but such a part of it is paid in a year, as reduces the expences to 2160*l.*

The grand point remaining to be considered is the rent of the land : This I shall suppose 20*s.* an acre, it cannot possibly be less, for numerous reasons, founded on indubitable facts. Mr. *Danby's* steward asserted that he could let *James Croft's* land for 20*s.* an acre, in small quantities, and 15*s.* in whole farms : Now let any one judge of the difference, between land laid as that miner's was, and that proposed in this improvement. *Croft's* courses of crops are the two following.

- | | |
|----------------------------|----------------------------|
| 1. Oats | 1. Turnips |
| 2. Maslin | 2. Oats |
| 3. Oats | 3. Oats |
| 4. Oats | 4. Oats |
| 5. Barley | 5. Oats |
| 6. Oats and hay-
feeds. | 6. Oats and hay-
feeds. |

The grass produced from which feeds I viewed, and am certain of its being very richly worth from 15*s.* to 20*s.* an acre. These crops were several of them limed for.

Now had the soil been any thing but a dunghill, this management would totally have ruined it; six successive crops of corn, as a preparation for grasses, is a conduct that nothing but the richest soil could bear.— But it suffered all this under a course of lime; which being a stimulus rather than a manure, forces the earth to yield all its nourishment: whence the common remark, that without lime you cannot completely ruin land. But the soil being a vast mass of vegetable food, the lime forced it to throw out immense crops of oats, and yet left enough for the nourishment of the grass. But contrary to this management, I propose that only one crop of oats be taken, and with those the grasses to be sown, the lime is thrown in with the ashes of the paring and burning; the turnips so produced are fed on the land; so that the grasses come at once on the noble manuring of the ashes, and also that of the sheep in eating the turnips, thus the lime has not the natural soil alone to work on, but also a double manuring. In a word, the grass at once comes into possession of all that nourishment, which in the other method is devoured by five crops of corn: A difference which those who are acquainted with husbandry must know to be prodigious.

But this advantage of the grass reaping the full exertion of the soil's fertility is not
the

the only one: This moory soil is a kind of black peat, extremely fibrous and porous, light and loose: Much ploughing, or keeping such a soil under arable crops, increases its natural faults: By laying it immediately to grass, you compress the parts, and under a turf fed in course, and trodden by cattle, it acquires a solidity of infinite worth to it. And for these reasons, one cannot help being in admiration, at the natural fertility of a soil, that can possibly be rendered worth 20s. an acre, by a conduct diametrically opposite to its nature. But at the same time, this fact is the strongest proof in the world, of the moderation of supposing it to be worth no more, when managed according to its nature, and wants. That it would let for 20s. an acre, in any part of *England*, and without difficulty, cannot for a moment be seriously doubted: In many parts, with which I am well acquainted, I would undertake to let it for from 30s. to 40s. The general account of the improvement is as follows:

Rent,	-	-	-	-	£. 640
Interest of 2160 <i>l.</i> at 4 <i>per cent.</i>	-	-	-	-	86
Clear profit,	-	-	-	-	554

Which is 29l. 12 s. *per cent.* Of so great importance is the improvement of these wastes,

wastes, that a landlord who possesses them, has a much more advantageous, and a fifty times more secure way of expending his money, than nine tenths of the merchants, manufacturers, and tradesmen, whose fortunes are so often the envy of the landlords of this kingdom.

In this mode of improvement, there is the certainty of the newly gained estate, not only being a most profitable one, but also a permanently improving one: It will constantly increase in value; which, had it remained arable, might not have been the case.

It is idle to offer variations of this calculation: Let any one start their objections; give those objections full weight; and when you have done, and calculated their consequences, you will yet find so great a profit remaining, that the same remarks will be applicable to it.

Much the most profitable way of undertaking such a business, is to fix on a certain quantity of land every year, for an annual improvement; which quantity should form a farm complete. By which means the improver would conduct his works with regular ease; he would every year have a set of buildings to erect,—a certain quantity of walling to raise,—a given number of acres to pare, burn, and lime; thus he would

have a command of working hands, from regularity of employment: He would likewise have a most profitably constituted farm always in hand, *viz.* a third part turnips, a third oats, and a third grafs; and he would every year let a new farm: This is the most profitable business in the world. But it would take me too much beside my present purpose, to explain or calculate it fully here.

The improvement of the boggy moors, which is the *sixth* article is in all respects the same as the preceding, except the article of draining, which is the first business to be undertaken: This must vary according to the nature of the land; if it is stoney, the smaller sorts of drains (provided the bog is not so deep that they would sink and be buried, which upon the moors is scarce ever the case) should be covered ones, but if stones are scarce, then the drains should all be open; the expence of the improvement depends upon the number of the drains, which must necessarily be various in every acre of land, consequently no exact estimate can be made: But the profit of draining them cannot be doubted, for there is great reason to apprehend the soil of these wet parts naturally more fertile than the dry ones; the ashes of them, when burnt, are a most excellent manure, and the crumbings

of the dried peats are the same, as Mr. *Danby* experimentally knows. But I forbear to enlarge further upon an article in which I have not the same authorities for reasoning as I had with the former classes.

Lastly, I must remark upon this subject of improving moors, that a more profitable field remains yet to be mentioned; which is the moor-side farms. Mr. *Danby* has some thousands of acres of these *, and other gentlemen the same. I know not one who hath not very large tracts of moor-land annexed and inclosed, but which remain in the same unimproved state as the moors themselves, all the profit of them being the convenience of the sheep they feed not rambling at large. Now the improvement of these

* Among other farms of this sort, let me insert the following contiguous ones.

170 Acres	Rent £.	11
400	-	65
91	-	6
300	-	52
961		134

500 of these acres are as good land as any in *England*, and yet almost useless. Mr. *Danby* offered me these 961 acres at that rent for any term of years, and with many advantages; were I possessed of an unappropriated 4000 *l.* I would have accepted the offer, with as great a certainty of profit, as pleasure at the idea of improvement.

farms

farms would be particularly profitable; as the inclosures and buildings are already done, consequently, in the above account, the expences would only be paring, and burning, and liming: The very mention of this system of improvement is sufficient; it must be obvious to the meanest capacity that the profit would be immense.

Upon the whole, the improvement of these moors would not only yield a prodigious profit clear to the undertaker, but would prove a noble work, considered in a national light: It would add vastly to the production of food of all kinds, be a very great assistance to the manufactures that are connected with agriculture, and employ a great number of most valuable people; in a word, it would prove a source of glory and profit to the undertaker, of riches and population to the publick.

The expediency of improving moors, though not to his own profit alone, Mr. *Danby* thinks so great, that he has determined to inclose from 50 to 60 acres more, for the use of his colliers, before the end of the next season; and these gradual improvements cannot fail of being attended with extremely beneficial effects: It will probably be but the beginning of greater undertakings, in this extensive tract of waste land.

Nor is this instance the only one in which Mr. *Danby* has given his attention to rural æconomics. He raises cabbage plants, on purpose to give them to his tenants, to induce them to enter into that profitable culture with spirit; and has, since the first edition of these papers, ordered six copies of Mr. *Scroope's General Instructions* for that culture, to be taken and given to six of the most tractable of his tenants, insisting on their cultivating not less than half an acre; and following those instructions in the work with the utmost precision; giving out, that he would assign a premium to him who succeeded best. This is a most excellent plan, and will undoubtedly effect the end proposed. It also shews how very useful the attention of a gentleman to these matters is, though he does not chuse the trouble of cultivating them himself. But Mr. *Danby*, in the general management of his grass land, gives an accurate attention to keeping them in the best order possible; and is particularly careful to form every year a very great compost of all the manure raised about his offices, the quantity of which is considerable; and also of virgin earth and turf, and lime: These he mixes together several times, till they are in fine order for grass land. He forms one vast heap every year; and spreads them one under

der another, on the land which most wants it: This is an excellent conduct, and deserves univerfal imitation *.

The roads which branch every way around *Swinton* are admirable, and owing

* The very excellent and worthy owner of *Swinton*, has made that seat one of the pleafanteft places in this country; he has furrounded the houfe with a moft beautiful park, finely wooded and watered, and has added plantations and pleafure-grounds in a ftile of great propriety and tafte. With much trouble and expence, he brought, feveral miles, a fmall but elegant fream through his gardens and park, which in fome places breaks into very fine lakes, in others contracts into the fize of a little rill, which winds through the woods in a moft pleafing manner: here, falling in cascades, it enlivens the whole fcene; there, withdraws from the eye, and hides itfelf in the dark bofom of tufted groves.

The houfe is very convenient, and elegantly furnifhed: Among other articles, the following pictures merit the moft attention.

Claud Loraine. Landscape, a quay. Very fine. The relief, perspective and general brilliancy, bold and spirited; the light behind the tower, and upon the water, beautiful.

Pouffin. Landscape. The general harmony of this piece is good. The trees beautiful, and the colours spirited.

Unknown.

entirely to the generosity and spirit of this gentleman. Through his own territory, which is very extensive, he makes them at his own expence, and in so excellent a

Unknown. Landscape: A thick tuft of trees with figures and cattle. The brilliancy, and glowing expression of the light behind the foliage, very pleasing.

Ditto. Landscape, its companion; boys on an ass, led by another. The expression of the boys fine: The little one behind draws himself up in a natural manner. The ass good.

Ditto. A group of figures, part of them around a table. The attitudes very easy and natural, particularly those of the two figures in the fore-ground: the draperies well done.

Ditto. A sea-port. The light strong and well reflected.

Unknown. Small landscape; rocks, trees, and a bridge at a distance. On the right, the trees are in good taste, but the other objects want distinctness.

Ditto. The five Senses, a group, with emblematical ornaments. Good, but the figures have vulgar countenances: the colouring and the other expression well done; indeed the ornamental part is better than the principal. The lap-dog is very much like a lion, and the beauties displayed by the lady in blue not of the most Titian elegance.

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Ditto.

Holbein

Rembr

Rubens.

Ditto.

Lely.

Unknown

manner, as to be superior to most turn-pikes; but the neighbouring roads he contributes largely to, and bribes the parishes to seek their own good. By this

elegance. The architecture is well executed, and the minute finishing of the whole fine.

School of Raphael. The delivery of the keys. Airs of the head good, but the drapery and general effect not pleasing.

Flemish. A boor with a trumpet in his hand: The attitude and expression very natural.

Unknown. Small landscape, a group of horsemen, with cattle driving through water. The general effect pleasing; the horses are the most finished part of the piece; the white one in particular is very fine, and in clear and full relief.

Ditto. A flower-piece. Good.

Holbein. A head. Very fine.

Rembrandt. A *Jewish* rabbi, a copy from the famous picture of this master. It is an excellent one: The face most expressively done; the hands good; the turband the same; the rest of the drapery and general effect fine and brilliant.

Rubens. An archduke of *Austria*. Capital. Exceedingly fine, and spirited expression.

Ditto. His archduchess. Ditto, but inferior to the other.

Lely. Three family portraits. Pleasing.

Unknown. Dead game. Very natural.

uncommon spirit, he has either made or greatly improved above 20 miles of road; a noble example!*

* While at *Swinton*, I took the opportunity to view Mr. *Aislabie's* two famous places, *Hackfall* and *Studley*. They are both ornamented grounds, but in a different stile; both fine and much deserving the attention of a traveller.

Studley Park is situated in the midst of an agreeable country, about four miles from *Ripon*. The house is a very good one, and contains several spacious apartments well fitted up. But the pleasure-grounds are chiefly considered.

The first object we were shewn to, is the banqueting-house; a handsome apartment, containing a well proportioned room for dining, and a sleeping one with a sofa within a screen of very light elegant carving. In the former is a statue of *Venus of Medicis*. At one corner of the lawn (laid out in the form of a coffin), in front of this building, stands an ionic dome temple in ruins, from which the views are various and pleasing; there are two of water, partly surrounded with wood; another up to a gothic tower, upon a fine rising ground: A fourth down upon a basin of water, with a portico on the backs; besides others.

Advancing up the hill to the right, we came to a bench which looked down upon a double cascade, one falling to appearance from out a cavern of rock, in a just taste, into a canal, which forms a little beneath you another fall, and then is lost, to the left, behind wood.

Winding

Winding yet further to the right, and crossing a woody vale, we mounted a little hill, with a tent on the summit, in a very picturesque and agreeable situation; for you look down on a fine winding lake, which floats the valley, surrounded by a bold shore of wood rising from its very banks. In one part of it a green seat is seen, and an arch in another.

From this hill we were next conducted to *Fontaine's* abbey, an exceeding fine ruin adjoining, and in sight of his grounds, lately purchased by Mr. *Aislaby*. The extent of the building was very great, and many parts of it perfectly complete. The rubbish is at present clearing away, and all parts of it undergoing a search, that no pavements or other remains of it may continue hid. This work has, I apprehend, rendered it necessary to clear away all the rubbish from the court; and to lay out that space with more regularity than would otherwise have been done; this is the case with some of the apartments; and likewise, I suppose, occasions the new fir doors in so many of the old arches: these circumstances are at present destructive of the beauty of the ruin, but when all the discoveries are made that are expected, and the building left in that proper state, which a gentleman of Mr. *Aislaby's* taste will undoubtedly order, it certainly will remain a very noble ruin.

It may not here be impertinent to consider for a moment what is the just stile for a ruin to appear in. We generally find them in retired, neglected spots, half filled with rubbish, and the habitation rather of bats, owls, and wild beasts, than of man: This horrible wildness greatly strengthens the idea raised by falling walls, ruined columns, and
imperfect

imperfect arches ; both are awful, and impress upon the mind a kind of religious melancholy ! an effect so difficult to raise by art, that we scarcely ever find a modern ruin that, in causing such, has the least power.—Ruins generally appear best at a distance ; if you approach them, the effect is weakened, unless the access is somewhat difficult : And, as to penetrating every part by means of artificial paths, it is a question whether the more you see by such means does not proportionably lessen the general idea of the whole. Looking, as it were, by stealth through passages that cannot be passed, heaps of rubbish stopping you in one place, broken steps preventing both ascent and descent in another ; in a word, some parts that cannot be seen at all, others that are half seen ; and those fully viewed, broken, rugged, and terrible.—In such the imagination has a free space to range in, and sketches ruins in idea beyond the boldest limits of reality.—Level these difficulties, and lay open the hidden recesses unpervaded by the sun for so many centuries, you at once destroy these great effects ; you leave the fancy no room to magnify ; and (if the building be gothic) twenty to one whether a single part in genuine beauty makes amends for such a loss :—you at best view but the ruins of distortion, not the remnants of *Grecian* elegance. These reasons appear to me of sufficient force to justify the leaving a ruin in the wildest and most melancholy state the ravaging hand of Time can have thrown it into. As to *Fountain's* abbey, the present possessor has too much taste to lessen the effect of one so spacious ; the circumstances I before hinted were I then remarked temporary.

The taste of an artificial ruin is decided in a moment; it should be an exact imitation of a real one: for this reason it should never serve a double purpose, that of an object, and a banqueting or tea-room; because the contrast between the out and inside, is apparently too great and dissonant. The one is an image of melancholy; the other a temple of festivity.

Returning from the abbey, you wind in the valley on the banks of the lake, at the bottom of the tent-hill; the spot is exceedingly beautiful; that hill, a cone of rising wood, is exquisitely pretty.

From hence the walk rises upon the edge of the surrounding hills, which are covered with wood; and through the trees you catch many obscure views that are truly picturesque: You look through them down upon the lake, in a most pleasing manner, and catch a beautiful view of the abbey. After this you command a river, winding around the tent-hill, covered with trees, and all incircled by a noble amphitheatre of hanging woods; the river meandering towards the abbey, which is seen to infinite advantage.

Your next view is from the green seat, where the same noble ruin appears in a varied situation: You here look down on the water, in front of the tent-hill; and catch to the left, at the top of a range of hanging woods, the arch before mentioned. This view is very fine.

Next we came to the white bench, from which the landscape is different from any of the preceding; it is a fine hollow of wood.

Further on, from a bench in a dark walk, an obelisk in the opposite wood is seen with a very good effect. This walk leads to the gothic tower,
a very

a very neat elegant building, commanding a various and very beautiful view. You look full upon a bank of wood, finely diversified with objects. To the left you see a tower, rising out of hanging wood ;—next to that a building, peeping over trees in a pleasing stile ; over this the ruined dome temple, in the very point of taste, most exquisitely situated ; sweetly pleasing and picturesque.—In another part of the wood, the obelisk, with a front and back-ground of wood. Besides these objects, you see, at the same time, a small building, almost beneath you, on the bank of the lake ;—the house and plantations adjoining in the park ;—the *Roman* monument and *Chinese* temple, two buildings among other plantations in the park ;—a small spot in the opposite walks, called the *Dial Lawn*—with several other objects that throw a great variety over the scene, and render it upon the whole truly beautiful.

Driving from hence through the park, the riding leads by the edge of a vast woody precipice, which bounds a winding valley with a rapid stream in it ; the views of which, among steeps of wood and romantic precipices, have a noble effect. The river forms two cascades that much enliven the scenes.

Upon the edge of this bank of wood stands the *Roman* monument, the model of that erected to the *Horatii* and *Curiatii* ; you look down from it, into a winding valley, at a considerable depth, through which the river takes its bending course ; at one end it is lost most beautifully in the hanging woods ; and at the other under a wall of rocks : At your feet it forms another cascade, which has a fine effect : In front you command

hanging

hanging woods, which give an air of majesty to the whole scene ; and through them, in one place, catch the gothic tower.

Leaving this spot, the riding leads on the edge of romantic precipices, scattered with pendant woods, through which you catch the river winding in the vale below. It brings you to the *Chinese* temple, standing on a circular projection of the high ground into the valley : You view the course of the river through it in great perfection ; but the principal object is the range of wood, which covers the opposite hills, and hangs to the eye in the most magnificent stile. The tower is seen at a distance upon a hill ; and to the right the gothic one, picturesquely situated in surrounding woods. Upon the whole, the scene from this spot is equally beautiful and romantic.

Following the riding from hence through the park towards the house, the scenes totally change, and that with an effect which is very advantageous ; for, losing these rocky steeps and hollows of wood, in which the objects are all near, and fully viewed, you rise to the command of a vast prospect of distant country. The town of *Ripon* and its minster is seen in the center of a finely cultivated and well peopled vale, scattered with villages, houses and other objects, in a very pleasing manner. This contrast closes the scene, and operates not only from its intrinsic beauty, but from being various to the numerous landscapes, which, in another stile, decorate the tracts you have passed.

Studley, upon the whole, must please every person that views it : The fine deep glens, the winding stream falling in cascades, and surrounded

with noble amphitheatres of wood; the picturesque views, at a distance, of *Fountaine's* abbey; the principal scenes viewed from the gothic tower; the tent-hill vale, and water adjoining, with some other touches before described, are extremely beautiful, and exhibit many romantic scenes, which cannot fail of striking the spectator.

Hackfall, seven miles from *Studley*, and only two from *Swinton*, is laid out in a different stile: Greatly worth the trouble of any traveller's going many miles out of his way to view it.

Entering the woods from *Swinton*, the first point of view we came to was a little white building, by way of a seat, on the point of a round projecting hill; you look down upon a rapid stream, through scattered trees which fringe the slope; the effect fine. To the right is an opening among the trees, which lets in a most beautiful view of a range of hanging woods, which unite to form a gloomy hollow. Behind, through another opening in the adjoining trees, you look upon a fine bend of the river; *Malsbam* steeple, and part of the town, appearing over some wood that hangs to the water; nothing can be more sweetly picturesque; for the spot whereon the building stands, being shaded with trees, the brightness of the sheet of water has the effect of a natural clear obscure, and the buildings seeming to rise from branches of wood hanging on the stream, adds greatly to the beauty of the scene: A white house, a little on one side, is an object which improves the landscape.—Another view from this spot, is to the left, a curve of the river, under a bank of hanging wood, scar'd with rocks.

From hence the riding winds on the banks of the river, and passing a dropping spring, rises up some slopes, to an open octagon bench, from whence the views are truly elegant. To the right you look upon a bold shrubby hill, which has an air of grandeur that is striking: There is a building by way of object, raised upon it, that is called an arch, or a ruin, almost hanging over a dell of wood; the river peeping at one spot in a pleasing manner, and the murmur over the rocks in its bed, fills the ear, and gives room for the imagination to play: One instance among others, how much ideal pictures are raised by the noise of a river foaming among rocks, but hid by wood; the steeps, and torrents, receive a heightening from the fancy, which would be half dissipated by viewing the reality.—To the left a bend of the river is seen fringed with hanging woods; and above them distant prospects.

Winding from this spot through the grove, we came next to a rustic stone temple, by the side of a basin, with the stump of a jet d'eau in the middle of it. It is in a small area, a hollow in the hanging woods, retired, and *naturally* beautiful: A little gushing fall of water from the bank into the basin is picturesque, and worthy of an irriguous meandering course, over moss and pebbles: An opening in the front of this spot lets in a view of a scar of rock, in the middle of a bank of wood.

Walking round the circular lawn, an opening to the left displays a most glorious hollow of hanging groves, on one side of which is seen the white seat first mentioned: This view is very noble. A little further you catch a fine circular hill of wood, and the shore of the river,

which winds at its feet; it has a magnificent appearance.

Advancing a little further, through a winding walk, you come to a grotto, from which the scene is beautifully picturesque. You look astant upon a natural cascade, which falls in gradual sheets above 40 feet, in the midst of hanging wood; it is quite surrounded by the trees, and seems to gush forth by enchantment: The water is clear and transparent, and throws a moving lustre to the eye, inexpressibly elegant: The motion of it pleases not only from its genuine beauty, but from the peculiar happiness of situation, viewed from a woody retired spot, which contrasts so well the brilliancy of the object.

But those touches of reality, which exceed the utmost efforts of painting, thicken upon us; for leaving this agreeable spot, we presently came to another, from whence you see a beautiful natural cascade, gushing, to appearance, out of a cavern in the rock, overhung with thick wood, and falling from one crag to another, till it loses itself among the adjoining woods.

You move next to a bench, where you are again entertained by the same cascade, viewed in a different direction, with the addition of its trickling at your feet over the grass, beautifully scattered with trees: Through them, in front, is a fine opening over a hollow of hanging woods. To the right you look down through another natural opening among the trees, and catch the river running rapidly over the rocks. Nothing can exceed the taste, variety, and beauty of this landscape.

Following

Following the winding course of the walk, we came to *Fisher's Hall*, a small octagon room, built of a petrified substance, upon a little swelling hill, in the middle of a hollow, surrounded by a vast amphitheatre of hanging woods.—This is the outline of the picture, which is in itself fine; but the filling up of the canvas adds a colouring more than equal to that of painting. Excuse the describing, and always remember that I offer description but to induce a friend to fly to that entertainment which I have found so pleasing.

The little hill on which this building is placed, is covered with a thicket of trees, so that you view every object by varying your position either clearly, or partly obscured by intervening trees, which makes the whole picturesque.—The river gives a bend at your feet, imbanked by hanging woods: the white building, first mentioned, peeping from among them in one spot, and a fine scar of rock in another. Under the seat, the stream is rapid, raging over rocks, and winding away under walls of them, covered with hills of wood. To the right of these objects, the other hills appear in a fine stile, one in particular covered with shrubby wood, projects in a magnificent sweep that cannot but strike the spectator with some degree of awe. All the surrounding ones appear from hence in fine waves, rearing their woody tops, one beyond another, in a stile truly great.

Besides these objects, which partake so much of the sublime, here are others of genuine and native beauty. From one side of this building, you have a most pleasing landscape, consisting of two cascades, divided by a projecting grove

of trees. That to the right pours down from one cleft of the rock to the other, for a considerable space, admirably overhung with the spreading branches of the adjoining thick wood, which rises in sweeps around it, gloomy with the brownness of the shade, and contrasting the transparent brightness of the water.

The other cascade likewise falls down an irregular bed of rock, but not in such strong breaks as the former; it is seen in the bosom of a fine wood, which fringes a rising hill, upon the top of which is a building. I attempted a slight sketch of these falls. See plate V*.

Winding from this inimitable scene down to the river's side, and following it, you come to a romantic spot under a range of impending rocks, with shrubby wood growing out of their clefts, and a few goats browsing on their very edges—You look back on the preceding scenes, which in general appear like a fine hollow of surrounding woods. *Fisher's Hall*, a beautiful little hill, the building crowned with a tuft of trees.

Pursuing this road a little further (though without the bounds of the ornamented grounds) you rise with the hill, and have a view of the river broken into three sheets of water, divided by scattered woods, and the banks ornamented by a straggling village; between the hills a distant prospect is seen.

Returning, we took the walk that leads by *Fisher's Hall* and winds up the hill to the left. The first point you come to is a bench overhung with trees, from which, at your feet, you look down upon a beautiful cascade, gushing out of a rock under a thicket of trees; exquisite. And to the right, at a little distance, another, but different.

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different: This scene is sequestered, and will naturally tempt the spectator to stop to admire the mild but pleasing beauties of the spot.

The walk winds up the hill by the side of a continued cascade, the water falling in small sheets from rock to rock in a most just stile; on one side a thick wood, and on the other a rocky bank, fringed with shrubs. This leads to *Kent's* seat, and alcove, from which the landscape is in the pure stile of ornamented nature: If you suppose art to appear, it is the *simplex munditiis* of design.—In front, at the distance of a few yards, is a double cascade; the water gushes from a dark spot, half rock, half wood, and falling on a bed of the former has but a short course before it falls a second time into the rill before mentioned, which winds over a bed of stone at your feet; these parts of the scenery are surrounded by a little amphitheatre of thick wood, and form upon the whole a most beautiful picture; it may not be admired by those who are fond only of *the great*, but to such as are pleased with the soft tints of nature's pencil—this landscape will yield pure enjoyment.—Nor is this all; for turning your eye a little to the left, you catch through a small, and, to appearance, natural opening in the trees, a view of a scoop of hanging woods; and beyond, a distant prospect: one of the most complete bird's-eye landscapes in the world.

Continuing this walk you mount to the top of the hill, and there arrive at a spot called *Mowbray Point*. The building (called the *Ruin*) has a little area before it, from which you command a prodigious prospect. You look directly down on an fine winding valley, the river appearing

in different sheets of water, and the roar of its rapidity heard distinctly, though so far beneath. This valley bends round a projecting promontory of high land. The hanging banks of which, like all the others, are covered with thick plantations, forming upon the whole a most glorious hollow of pendent woods. At the bottom besides the river, you see *Fisher's Hall* in a very picturesque situation; and, at the top of the opposite projecting hill, a pasture, so truly elegant as to decorate the whole scene. The distant prospect has a great variety; to the right, it is unbounded except by the horizon; in front, you look upon the extent of *Hambleton* hills at the distance of about 20 miles; and to the left you have inclosures distinctly seen for many miles. The whole vale before you is finely scattered with towns, villages, churches, seats, &c. *York-minster* is seen distinctly at the distance of more than 30 miles; *Roseberry Topping* in *Cleveland* as far another way. In front you view the scar in *Hambleton* hills, called the *White Mare*, the town of *Thirsk* almost under it, and *North-Allerton* to the right.—In the building are two neatly furnished apartments, one for dining, and the other by way of drawing room.

L E T T E R XII.

IT was not without regret that I took my leave of *Swinton*, and its most worthy owner: It is a family in which a polite cheerfulness and a manly urbanity both please and instruct. My route was to *Crakehill*, at which place lives *Mathew Dodsworth*, Esq; whose experiments and improvements in agriculture merit a particular attention. He was so obliging as to give me a very candid and sensible account of the husbandry commonly practised in his neighbourhood, as well as the register of his own experience. By first inserting the former, the latter will be the better understood.

The soil about *Crakehill* is chiefly gravel; lets, the arable at 10s. and the grafs at 16s. Farms rise from 20*l.* to 80*l.* a year. Their courses are,

1. Turnips—2. Barley—3. Pease.

And, 1. Turnips—2. Barley—3. Oats.

Also, 1. Fallow—2. Wheat—3. Oats.

Also, 1. Fallow—2. Wheat.—3. Beans.

Likewise, 1. Turnips—2. Wheat—3. Oats.

And, 1. Turnips—2. Wheat—3. Pease.

And,

And, 1. Turnips—2. Barley—3. Clover—
4. Wheat.

The last is much the best; some of the others are however good.

They plough three times for wheat, sow ten pecks, a week before and a week after *Michaelmas*; and gain, upon an average, 20 bushels. For barley, they stir but once, sow ten pecks or three bushels, generally between the 5th and 20th of *April*, and reckon the medium crop at three quarters and an half. They give but one ploughing for oats, sow four bushels, about the middle of *March*, and gain 30 upon an average.

For pease, they likewise plough but once, sow nine pecks, before barley sowing, and gain 30 bushels in return.

For turnips they stir three times, sow them about the 22d of *June*, but never hoe; the value they calculate on old land from 45s. to 3*l.*; but, on new, from 3*l.* to 4*l.* They use them for sheep and fatting beasts, feed them off with the first, but draw and lay them on grass for the latter: No stall feeding. Their defence for not hoeing is certainly of some weight,—that the graziers and butchers would not buy them; a person in the neighbourhood who has purchased considerable quantities, sufficient to feed 600 sheep *per annum*, would accept none but the unhoed; he more than once viewed hoed crops, and rejected them, asserting that the
little

ver— little turnips would go much farther, by not
being so liable to waste and damage.—
f the To answer such rubbish in the purchaser,
would be to affront every common under-
fow standing.—Clover they sow with barley,
after and generally mow the first crop.

rage, Lime is their principal manure; they lay
once, a chaldron and quarter *per* acre: Costs 8 s.
rally *per* chaldron at the kiln, and the leading
and from 1 s. to 1 s. 6 d. *per* chaldron. They
rters always break up old grafs, by paring and
ning burning; consequently that method proves a
ddle considerable manuring; the expence,

Paring,	-	-	£. 0	13	0
Burning,	-	-	0	5	0
Spreading,	-	-	0	1	6
				£. 0	19 6

They reckon this superior to all other ma-
nures. They never chop their stubbles;
and they feed their hay about the fields;
consequently the farm-yard manure is no-
thing.

Very good grafs land lets at 20 s. an acre;
they apply it to the three purposes of
fattening heifers, fattening sheep, and dairying.
Two acres will carry a cow through the
summer. Their breed is the short horned,
which they reckon much the best both for
fattening and milking; short horned cows
they

they assert give more milk, but thinner; long horns, less but thicker; but short horns universally more butter on the same keeping, and fat to a much greater weight.

The product of a cow they reckon at 7*l.* 7*s.* their winter food, hay when milking, and when dry, turnips: of the first, two acres: The year's joist they reckon at 4*l.* 10*s.* They keep about three or four hogs to ten cows, which is the number commonly assigned to a dairy-maid. The calves suck from 14 to 28 days.

Their flocks of sheep are generally from 20 to 80; the profit they calculate at 15*s.* *per* sheep. The joist on turnips is from 2½*d.* to 3*d.* a week; but 4*d.* in *April* and the first week in *May*, on any food. The average fleece 6*lb.*

In their tillage they reckon that five or six horses are necessary for the management of 50 acres of arable land; use four in a plough, and do at breaking up the fallows $\frac{3}{4}$ ths of an acre a day, but afterwards an acre. They give their horses no oats, except at hard work in the spring; reckon the annual expence at 5*l.* The summer joist from 30*s.* to 40*s.* The time of breaking up the stubbles for a fallow varies; for turnips it is done before barley sowing; but for wheat after. The price *per* acre of ploughing 4*s.* and the depth of stirring five inches.

In the hiring and stocking of farms, they reckon from 250*l.* to 300*l.* necessary for one of 90*l.* a year.

Land sells at from 35 to 40 years purchase. Many small estates of 100, 150, or 200 a year.

Tythes both gathered and compounded.

Wheat, 4*s.* 6 *d.* *per* acre.

Barley, 4*s.*

Oats, 4*s.*

Turnips, 2*s.* in the pound on sale.

Blendings, or pease and beans, 3*s.* 6 *d.* *per* acre.

Hay, 1*s.* 6 *d.* to 2*s.*

Poor rates 6 *d.* in the pound.

The employment of the poor women and children, is chiefly spinning of wool; the women earn from 4 *d.* to 6 *d.*; girls 10 years old, three pence halfpenny. All drink tea.

The farmers carry their corn from two to five miles.

LABOUR.

In harvest, 1*s.* a day and small beer.

In hay-time, ditto.

In winter, 9 *d.* or 10 *d.* The year round about 10 *d.* a day.

Mowing grass, 1*s.* 6 *d.* *per* acre, and ale and small beer.

Ditching, 3 *d.* to 8 *d.* *per* rood.

Head-man's wages, 10*l.* to 11*l.* 11*s.*

Next ditto, 8*l.* to 10*l.*

Lad

Lad of 10 or 12, 3*l.* 10*s.*

Dairy maids, 4*l.* to 5*l.*

Other ditto, 3*l.* to 4*l.*

Women *per* day, in harvest, 8*d.* to 1*s.*
and small beer.

—————In hay-time, 6*d.* to 8*d.* and ditto.

—————In winter, 5*d.*

IMPLEMENTS, &c.

A waggon with narrow wheels, 11*l.* to 15*l.*

A cart, broad wheels and iron axle tree,
12*l.* to 14*l.*

A plough, from 2*l.* to 4*l.*

An ox harrow, 2*l.* 12*s.* 6*d.*

A horse ditto, 1*l.*

But few rollers.

A scythe, 3*s.* 6*d.*

A spade, 4*s.*

Laying a share, 4*d.*

Ditto a coulter, 4*d.*

Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread - - 1*d.* *per* lb.

Cheese, - - 1 $\frac{3}{4}$

Butter - - 7 $\frac{1}{2}$ —22 oz.

Beef, - - 3 $\frac{1}{4}$

Mutton, - 3 $\frac{1}{4}$

Pork, - - 3 $\frac{1}{2}$

Milk, - - $\frac{1}{2}$ *d.* *per* pint.

Potatoes, - 4 $\frac{1}{2}$ *d.* *per* peck.

Candles, - 7

Soap, - - 5 *d.*

Labourer's house rent, 25 *s.*

———firing, 20 *s.* but many only breaking hedges.

———tools, 10 *s.*

BUILDING.

Bricks, *per* 1000, 11 *s.*

Tiles, 40 *s.*

Oak timber, 1 *s.* to 1 *s.* 6 *d.*

Ash ditto, 8 *d.* to 1 *s.* 2 *d.*

Elm ditto, ditto.

Soft woods, 8 *d.*

A mason, *per* day, 1 *s.* 6 *d.*

Carpenter, 1 *s.* 4 *d.* to 1 *s.* 6 *d.*

Thatcher, 1 *s.* and board.

Plastering, 1 *d.* *per* yard, *per* coat.

Ditto a ceiling, 4 *d.* three-coats.

A house wall, seven yards long, and one high, 3 *s.* 6 *d.* laid in lime.

Stone at quarry, 1 *s.* a load.

Cart, three horses and a man at carting, for building, for 4 *s.* a day.

In the parish of *Craikbill*, in the year 1758, were

372 Acres of hay

90 Ditto hard corn

36 Ditto barley

110 Ditto oats, pease and beans.

In this parish there are likewise

87 Horses

99 Cows

575 Sheep

575 Sheep

74 Oxen

74 Young cattle.

In that of *Watlafs*, near it, are

57 Horses

79 Cows

404 Sheep

40 Oxen

25 Young cattle.

Mr. *Dodsworth*'s experiments abovementioned I shall arrange under the heads of tillage, draining, manures, cabbages, beans, and drilled turneps. The minutes he was so kind as to favour me with, are particularly valuable, as they were all extracted from memorandums in writing.

Tillage.

The capital improvement effected in tillage, consists in trench ploughing. In 1765, he double ploughed 11 acres of land, which let at 7*l*. It was first cut by a paring-wheel-plough worked by three horses; then came a strong wheel plough drawn by two oxen and six horses, by which means a depth of 10 inches was gained; and the 11 acres finished in 18 days; a man followed the ploughs to tread down the fods. Six of these 11 acres were sown with barley, and produced

21 quarters 3 bushels, which sold			
for - - -	£.	28	7 0
31 acres were with turnips, and			
fold for - - -		14	6 1
They were fed off with sheep, and kept 39 for 18 weeks.			
Another acre of turnips was sold			
for - - -		4	0 0
Besides these articles, the field produced			
5 bushels of tares, - -		1	0 0
2½ white pease, - -		0	10 0
30 bushels common potatoes,		3	0 0
9 ditto early, at 3s. - -		1	7 0
	£.	52	10 1

Which is *per* acre, 4*l.* 15*s.* 5*d.*

This crop is upon the whole considerable; the land was before supposed to be very bad, and the rent was trifling; besides, this species of improvement has been generally supposed to operate little at first; the soweriness of the under stratum of the soil requiring some time to be sweetened and ameliorated by the influences of the atmosphere;—so that such a product the first crop, must be thought a very great one.

In 1766, four acres of this field were sown with barley, and produced

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19 qrs.

19 qrs. the price not minuted, let
 us call it as before, 27s. £. 25 13 0
 6 acres $\frac{1}{2}$ yielded turnips, sold at 16 10 0
 50 bushels of potatoes at 2s. 6d.
 on $\frac{1}{2}$ an acre, - - 6 5 0
 £. 48 8 0

Which is *per acre*, 4l. 8s.

In 1767, the field was cropped with
 maclin and barley:

4 acres of the first produced 92
 bush. sold at 4s. 6d. *per bush.* 20 6 0
 6 acres of barley produced 29
 quarters 5 bushels, at 23s. 34 1 2
 One acre not fowed.
 £. 54 7 2

Which is *per acre*, 5l. 8s. 8d.

This experiment, proves in the strongest
 manner the excellence of the practice; here
 are three successive crops, all great, upon land
 which before was thought very meanly of,
 and worked in a manner quite contrary to the
 common practice: If the result of three
 years experience does not satisfy the most
 cautious of cultivators, I know not what
 can.

In 1766, Mr. *Dodsworth* trench-ploughed,
 in the same manner as before, another field
 of five acres, and harrowed in oats on one
 part of it, and beans on the rest; the crop
 was

167 bushels of oats, at 2 s. 6 d.	£. 20	17	6
28 bushels of beans, at 3 s. 6 d.	5	12	0
	£. 26	9	6

Which is *per* acre, 5 l. 5 s. 10 d.

I relate these two experiments with peculiar satisfaction: The practice has been often recommended in books of husbandry, but I never yet met with a single experiment that was satisfactory, so that the real truth of the matter was before totally unknown; —for so I consider all points of husbandry that are treated in the instructive mode of writing, unless verified by previous experiments.

Draining.

In 1766, this very accurate cultivator cut open drains through a car of peat-earth; he then pared and burned it, ploughed it once, and harrowed in oats, the crop was 65 bushels, which sold at 2 s. 6 d. *per* bushel; with the oats grafs seeds were sown, and it has been a very good pasture ever since.

In 1767, twenty-six roods of covered drains were cut in a cold, wet, springy clay field. The dimensions, a yard deep, six inches wide at bottom, and as narrow at top as would permit a man to dig them; they were then filled 18 inches deep with stones picked off the land. The expence,

Y 2

Cutting

Cutting the drains and filling

up, *per rood*, - - £. 0 0 6
 Gathering the stones and leading, 0 10 0

£. 0 10 6

In 1767, this field would not bear oats; but this year it is covered with the best barley on the farm.

Manures.

Two acres of wheat were harrowed the 16th of *April*, after sowing 20 bushels of coal-ashes over them: The improvement was very considerable and obvious, on comparison with the rest of the field.

Cabbages.

This gentleman's experiments on cabbages are various; they contain some very useful hints, and particularly respecting the expence of cultivation and the quantity eaten by cattle.

1764.

From the 20th of *May*, to the 20th of *August* five acres cost, in planting, manuring, horse, and hand-hoeing, 2 *l.* 5 *s.* 7 *d.* or 9 *s.* 1 *d.* *per acre*.

This year a cow of 50 stone was found to eat 12 stone of cabbages *per diem*.

Two rows kept, in a storm of snow in *January*, the following cattle three weeks:

3 Milch cows

22 Year

22 Year old lambs

3 Yearlings,

all in one field without any hay; the rows contained 481 square yards, and 309 cabbages. One of the cows had newly calved; and the other was to calve at *Lady-day*: They produced in a week 11 *lb.* 18 ounces of butter, at 24 ounces to the pound, or at 16 ounces to the pound, 17 *lb.* 10 ounces. A vast quantity for two cows, one almost dry; and shews in the strongest manner the excellency of this food for milch cows.— But besides these cattle, a fat cow, a tup, and 18 ewes, had some cabbages every day. At reasonable prices, the above 481 square yards produced as follows in money:

3 milch cows, 3 weeks, at 2 s. 6 d.	£.	1	2	6
22 year old lambs, at 4 d.	-	1	2	0
3 yearlings, at 1 s. 6 d.	-	0	13	6
Suppose the other cattle eat to the amount of	-	-	0	10
Which is very moderate.				
	£.	3	8	0

Which is *per* acre, 34 *l.* 4 *s.*

This is a noble produce, and a fresh proof of the vast profit of cultivating this most useful vegetable.

The same year one acre of cabbages fed the following cattle nine weeks:

3 Milch cows

1 Fat ditto

Y 3

3 Year-

3 Yearlings
22 Year old lambs
19 Ewes.

This product amounts in money to the following sum:

3 milch cows 9 weeks, at 2 s. 6 d.	£. 3	7	6
1 Ditto fat, at ditto, - -	1	2	6
3 Yearlings, at 1 s. 6 d. - -	2	0	6
22 Lambs, at 4 d. - -	3	6	0
19 Ewes, at 6 d. - -	4	5	6

* £. 14 2 0

This produce is very considerable; and yet more so, when I add that this acre was one of the worst.

1765.

This year 20 acres of cabbages were cultivated; the crop was very fine; but particular minutes were not taken.

1766.

This year the seed was sown the 28th of *February* for four acres and an half, the planting, manuring, horse, and hand-hoeing

* These prices are very moderate. It must always be considered, that the cabbages come into use at the most valuable of all times, that is when turnips are rotten and done: I do not think I should exaggerate, if I was to double the turnip prices for cabbages.—
The extravagant price of turnips must be remembered.

of

of which cost 4*l.* 7*s.* And this year the same expences on the two other acres amounted to 1*l.* 18*s.* 4*d.*

1767.

Two acres this year were planted. *Nov.* 16th, two beasts, two years and an half old, were put to them, and four sheep. Three oxen the 24th of *December* that cost 41*l.* 9*s.* 6*d.* and two more sheep. These cattle were all maintained on one acre and an half of cabbages, the other half being applied to other uses, till the 5th of *February*.

Produce.

Keeping two beasts 11 weeks and

an half, at 2 <i>s.</i> 6 <i>d.</i>	-	£. 2	17	6
Ditto 4 sheep, ditto at 6 <i>d.</i>		1	3	0
Ditto 3 oxen 6 weeks, at 3 <i>s.</i> 6 <i>d.</i>	3	3	0	
Ditto 2 sheep at 6 <i>d.</i>	-	0	6	0
		£. 7	9	6

Which is *per* acre, 4*l.* 19*s.* 8*d.*

It has for several years been a common custom with Mr. *Dodsworth*, to manure for his cabbages, by opening a furrow on the top of each ridge, with a small double mould-board plough, in which furrow the dung is laid, at the rate of eight loads *per* acre: It is then covered with the mould, and plants set in a line upon it. The year following the land is cross ploughed. He has often fattened oxen

Y 4

on

on them, from 60 to 90 stone a beast (14 lb.) and has found, that they would generally eat from 15 to 17 stone *per diem*, in the beginning of the winter ; but after *Chriſtmas* the cabbages grow lighter.

Upon the whole, there is the greatest reason from these experiments to conclude, that the culture of cabbages is of the utmost consequence, and cannot be too much pursued, the average product of the preceding crops is very great ; as follows,

Experiment, N ^o 1	-	£. 34	4	0
2	-	-	14	2
3	-	-	4	19

Product of 3 acres,	£. 53	5	8
---------------------	-------	---	---

Which is *per acre*, 17 *l.* 15 *s.* 2 *d.*

Beans.

Three acres drilled in double rows one foot asunder, with four feet intervals ; horse-hoed between the rows, produced 75 bushels ; which were sold at 4 *s.* *per bushel*. This is 25 bushels *per acre*.

Drilled turnips.

Mr. *Dodsworth* has had great success from sowing turnips in drills, at two feet asunder, upon furrows of manure, as in the case of cabbages : The intervals horse-hoed twice ; and the plants in the rows well hand-hoed, and set at proper distances.

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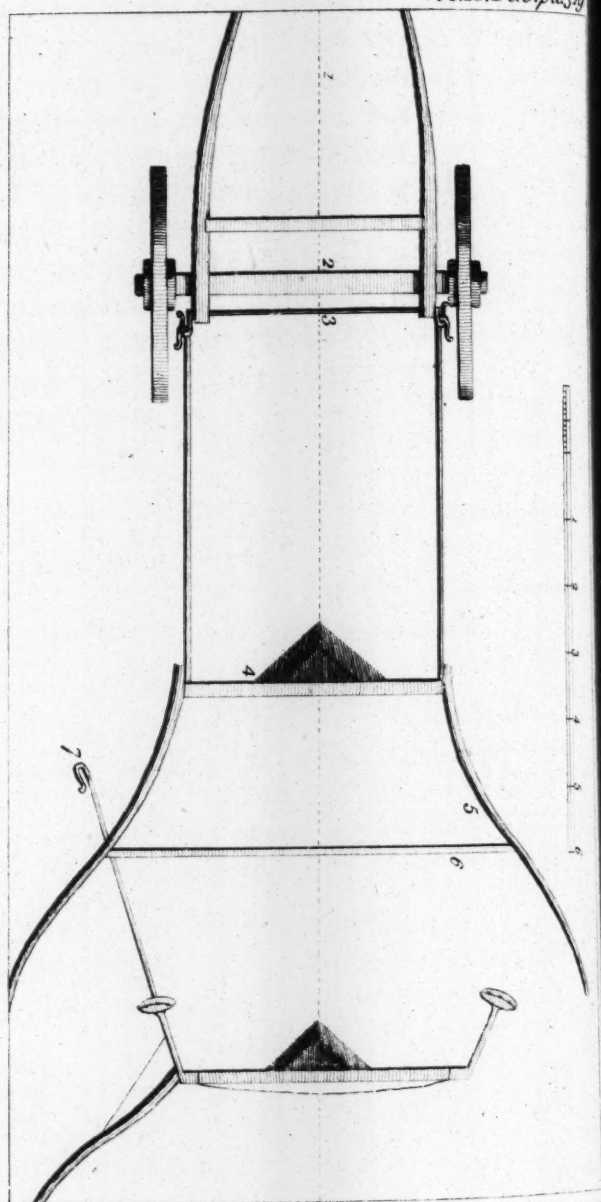
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This gentleman has invented a machine for cutting mole-hills, which, with two horses, one man and a boy, will work against six men in the common way. Plate VI.

The Ant-hill Plough upon the draught:

1. The shafts. 2. The axletree. 3. The bolt that goes across the shafts to fix the knife or cutter to at 7. 4. The knife or cutter. 5. The handles. 6. The slot that fastens them together.

Too much praise cannot be given this very accurate cultivator, for the judicious plan upon which he designed his experiments; and for the attention to minuting the result, without any idea of their publication; had he thought of their being laid before the public, they would of course have been more numerous; but I must add, not more exact.

I am also indebted to him for a view of the improvements on moor-land of the Rev. Mr. *Dalton* of *Hawkswell*, in the neighbourhood of *Crakehill*.

That gentleman inclosed 200 acres out of a moor, which were unlet to any tenant, being so very bad, that no farmer would have any thing to do with them. The walling cost 8 s. 6 d. *per* rood; the raising them cleared all the stones from off most of the land; but in some very stoney parts, the finishing that work, after the walls were built, cost 10 s. *per* acre,

The

The next business was the paring and burning, which was performed in more ways than one; both the black earth and the white, or better sort, were pared and burned in the common method, that is by hand, and also ploughed, and the turfs burned; in some fields the black earth was ploughed four inches deep before winter, and the furrows burned in the spring.

Another method followed by this gentleman, which has answered very well, is first to burn the ling, then plough it in the spring, and let it lie all summer: In autumn to plough it across, and harrow it. In the following spring it is harrowed well, and all the clods and turfs gathered and burned; the ashes spread; the ground then ploughed and sown with turnips, which are worth 50 *s.* *per* acre; these are fed off with sheep; and the land sown with big, of which the crop varies from two to four quarters *per* acre.

Paring and burning in the common method costs, *per* acre,

Paring,	-	-	£. 0	18	0
Burning,	-	-	0	5	0
Spreading,	-	-	0	1	0
					£. 1 4 0

Lime is spread with the ashes in every way; the quantity various.

With

With the first crop of spring corn the land is laid down to grass. The species sown are burnet, red-honey suckle, white clover 4 *lb.* rib grass 6 *lb.* ray grass half a bushel. He has tried both with, and without corn; but little difference in the grass. I viewed a field, part of it laid down in this manner, and part of it with dwarf poa, gathered by hand; but there was no comparison between them, the former better six to one.

In these methods of improvement, the grass becomes worth 10 *s.* *per* acre the first year; and there is no doubt but the value will annually improve.

This instance of the cultivation of a waste tract reputed barren, is satisfactory, and does great honour to the gentleman who has undertaken it. Such spirited attempts cannot be commended in terms adequate to their merit: So many millions of acres of moors as remain waste, and of no value in a trading and manufacturing country, so rich and populous as this, and in a period that abounds so much with complaints of the dearth of provisions, ought to be considered as so many nuisances:——their existence is a continual dishonour to all their possessors.——What praise is therefore merited by the noble FEW, who have the spirit to act in a different manner.

Leaving

Leaving *Crakehill*, my next route was to *Sleningford*, the seat of —— *Dalton*, Esq; who was so obliging as to favour me with the following minutes.

The soil about that place is a shallow loam on a limestone. The arable lets at 6*s*. and the grass at 9*s*; average about 8*s*.

Farms are in general from 60*l*. to 80*l*. The courses,

1. Fallow—2. Wheat—3. Oats.

And 1. Fallow—2. Wheat—3. Barley—

For wheat, they plough four times, sow nine pecks, the time between *Michaelmas* and *Martinmas*, and reap upon an average 15 bushels. They plough twice for barley, sow 10 pecks between *Lady-day* and *May-day*; the average produce two quarters and an half. For oats they plough but once, sow four bushels before barley sowing, and gain about three quarters in return. They likewise give but one earth for pease, sow three bushels before oat sowing, and gain, upon a medium, a quarter and an half. Maclin they manage in the same manner as wheat, mix a peck of rye with a bushel of wheat: They have of late discovered an improvement, which has been attended with infinite advantages: It is the sowing their wheat and maclin on the lime-stone land in *March*: They do not find a fortnight difference in the ripening between an autumnal and a spring sowing: But the crop of the latter is much

much the best; they get 15 flocks, where they used to have but 12.

They plough four times for turnips, never hoe them; and reckon the mean value per acre 35*s*. They feed them off the land with sheep, but draw them for beasts, throwing them upon a grass field.

Clover they sometimes sow with barley, but the crops are poor ones; not accounting to more than 30*s*. an acre; wheat they sow after it.

Their manuring is very trifling; for they have nothing deserving the name of a farmyard; never chop their stubbles, and feed their hay in the fields. They pare and burn the land they break up; the expence,

Paring,	-	-	£. 0	10	0
Burning,	-	-	0	11	0
Spreading,	-	-	0	1	6

£. 1 2 6

No one folds his sheep, except Mr. *Dalton*.

Good grass will let for 20*s*. an acre; they use it chiefly for dairying, and reckon two acres and an half necessary for summering a cow. They never manure it. Their breed of cattle is the short horned, holding the long in much contempt. The annual product of a cow, they reckon at 6*l*. but the profit at no more than 40*s*. Four gallons of milk the common quantity per day.

They

They keep about a pig to every cow. Their winter food is hay alone, of which they eat as much as grows on four acres. The calves for rearing, suck 10 days, for the butcher a month. A dairy maid they reckon can manage seven cows; 3 *l.* is the joist in winter, and 1 *l.* 1 *s.* in summer. They winter them in the field.

Their swine fat to 20 stone.

They keep but few sheep; in general about 20 or 30; reckon the profit at 15 *s.* a head. The joist on turnips 3 *d.* a week: in *April* worth 6 *d.* The average fleece is 4 *lb.* and an half.

In their tillage, they reckon four horses necessary for 50 acres of arable land, use three in a plough, which do an acre a day. The summer joist of a horse is 30 *s.*; and the annual expence they calculate at 5 *l.* The price of ploughing is 4 *s.* an acre; they go four inches deep. The time of breaking up stubbles for a fallow is after barley sowing.

They know nothing of chopping straw into chaff.

The hire of a cart, three horses, and driver, is 5 *s.* a day.

In the hiring of farms they reckon 300 *l.* necessary for one of 100 *l.* a year.

Land sells from 35 to 40 years purchase. There are scarce any little estates of 1, 2, 3 or 400 *l.* a year.

Tythes are taken in kind.

Poor

Poor rates 1s. in the pound. The employment, spinning worsted, at which a woman earns 5*d.* a day, and a girl of 12 years old 4*d.* Very few drink tea.

The farmers carry their corn five miles.

The general œconomy will be seen from the following particulars of farms.

178 Acres in all	6 Young cattle
50 Arable	50 Sheep
128 Grass	1 Man
£.84 Rent	2 Maids
4 Horses	1 Labourer
12 Cows	1 Plough
4 Fattening beasts	2 Carts.

Another :

69 Acres in all	3 Young cattle
18 Arable	30 Sheep
51 Grass	1 Man
£.31 Rent	1 Plough
3 Horses	1 Cart.
7 Cows	

Another :

56 Acres in all	6 Young cattle
20 Arable	20 Sheep
36 Grass	1 Boy
£.26 Rent	1 Plough
3 Horses	1 Cart.
5 Cows	

LABOUR.

LABOUR.

In harvest, 1*s.* and milk.
 In hay-time, 1*s.* A mower, 1*s.* 6*d.*
 In winter, 9*d.*
 Mowing grass, 2*s.*
 Hedging, 3*d.* a rood.
 Threshing wheat, 2*d.* *per* bushel.
 ———barley, 1*s.* 3*d.* *per* quarter.
 Head man's wages, 12*l.*
 Next ditto, — 9*l.*
 Boy of 10 or 12 years, 4*l.* 10*s.*
 A dairy maid, 5*l.*
 Other ditto, 4*l.*
 Women, *per* day, in harvest, 10*d.*
 In hay-time, 6*d.*
 In winter, 6*d.*

IMPLEMENTS, &c.

Very few waggons; the price 13*l.*
 A cart, 8*l.*
 A plough, 30*s.*
 A harrow, 20*s.*
 No rollers.
 A scythe, 4*s.*
 A spade, 4*s.* 6*d.*
 Shoeing, 1*s.* 4*d.*

PROVISIONS, &c.

Bread,	-	1 <i>d.</i> <i>per</i> lb.
Cheese,	- -	2
Butter,	- -	7 — 22 ounces.
Beef,	- -	3

Mutton

Mutton,	-	3 <i>d</i> .
Pork,	-	3 $\frac{1}{2}$
Milk,	-	$\frac{1}{2}$ <i>d</i> . a quart skim.
Potatoes,	-	4 <i>d</i> .
Candles,	-	6
Soap,	-	6
Labourers house-rent,		15 <i>s</i> .
—firing;—		steal it all.
—tools,		5 <i>s</i> .

BUILDING.

Bricks,	15 <i>s</i> . per 1000.
Oak timber,	1 <i>s</i> . 8 <i>d</i> . to 2 <i>s</i> .
Ash,	10 <i>d</i> .
Elm, ditto.	
Mason, per day,	1 <i>s</i> . 8 <i>d</i> .
Carpenter, ditto.	
Thatcher,	1 <i>s</i> . and board.
Stone walling,	3 <i>s</i> . 6 <i>d</i> . a rood, of 7 yards long, and 1 high.
Slating,	35 <i>s</i> . a rood at quarry; workman- ship, 20 <i>s</i> .
Farm houses of stone and slate.	

Upon the whole, the husbandry of this country is a system of indolence and poverty: Their management wretched, and their crops proportioned; the cheapness of labour ought to occasion a little spirit in their culture. It rests upon Captain *Dalton*, to kindle new ideas among them; and the following sketch will shew, that no one is better able.

That gentleman's husbandry is new, and conducted upon excellent principles. His course is,

1. Potatoes
2. Barley
3. Clover, ray-grass, and trefoil, cut off with sheep one year.
4. Wheat on one earth.

He has tried pease after the wheat, but apprehends it to be a faulty custom. The wheat in this course is fine; he gets 20 bushels an acre upon land that never yielded 12 before. The barley is likewise very good; a quarter *per* acre, more than the farmers ever get after turnips.——The potatoes are managed as follows.

The wheat stubble is ploughed up in *October*; the beginning of *March*, it is stirred again; at *Lady-day*, harrowed with heavy harrows. Then drills are made with a common plough, 4 inches deep; the distance various in different fields, from 18 inches to three feet, for the sake of experimentally knowing the best; but chiefly three feet. The potatoe sets are then dropped in whole, never sliced, but picked, such as are somewhat larger than a pigeon's egg. Then they are covered with dung, 10 cart loads (25 bushels each) *per* acre; the more rotten the better the crop: After this, the plough covers them. When they appear in rows, the ridges are harrowed down; and in

that state they are left till recovered. When the weeds begin to rise, the spaces between the rows are horse-hoed with a common plough; and those that come among the plants cut up with small hand-hoes. They are ploughed up about the middle of *October*, and the product upon an average of several years, 150 bushels *per* acre. Among other spots planted with potatoes, the following Mr. *Dalton* attended particularly to.

1763.

One rood upon limestone land, planted with four bushels, in rows 18 inches asunder, and one foot from plant to plant in the rows, well horse and hand hoed, produced 70 bushels; that is, *per* acre, 280 bushels.

1764.

One acre upon the same soil as the preceding experiment, and managed in the same manner, produced 260 bushels.

1765.

Two acres upon the same soil, planted, cultivated and taken up as before, produced each 280 bushels.

1766.

Two acres this year, managed in every respect as before, produced 270 bushels *per* acre.

1767.

Three acres in rows three feet asunder, and the plants one foot, horse and hand hoed

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as

as before, yielded 300 bushels of picked potatoes, and 50 bushels of small ones.

One year Mr. *Dalton* had in the same field two crops, one of cabbages, the other of potatoes; both of them were equally manured. The whole was sown with barley the next year, which proved better by a quarter *per* acre, after the potatoes than after the cabbages.

One of this gentleman's tenants planted an acre of potatoes in the middle of a field fallowed for turnips. All was dunged, and the turnips fed off by sheep. The whole was sown with oats; which crop was better after the potatoes, by nine bushels *per* acre, than after the turnips.

These two experiments are both very satisfactory, and prove strongly the great ameliorating nature of this most useful root. To exceed turnips manured, and fed off with sheep, as a preparation for spring corn, is a circumstance greatly favourable; but then it should be remembered, that the farmers do not hoe their turnips.

Cabbages, this ingenious husbandman has tried more than once. In 1766, he had two acres of the large *Scotch* sort, upon his limestone land, well dunged; they were planted the beginning of *June*, in rows four feet asunder, and 22 inches from plants to plant. The average weight *per* cabbage was 4 *lb*. They were given to cows, and

made

made the butter absolutely stink; but he apprehends it owing to the decayed leaves not being taken off.

The next year he had another acre managed in all respects as before, except the manure, which was lime and dung mixed. The crop a very poor one, not above 1 *lb.* apiece upon an average. They were fed off with sheep.

In 1766, he cultivated the turnip cabbage; he sowed them in the spring, and planted out about 1500 plants in a rood of limestone land; the end of *May*, they were well horse and hand-hoed, and weighed about 5 *lb.* each on an average; they were given to sheep the middle of *April*, and found to be exceedingly fond of them.

This gentleman has likewise cultivated the artificial grasses with attention. In 1764, he sowed 12 acres of sainfoine upon his shallow limestone land, it was sown alone after turnips, and, when up, carefully weeded. It has lasted ever since, mowed every year once, and has produced as much hay constantly, on every acre, as any three of natural grass in the neighbourhood. He gives it to horses. In 1767, he took some cows from natural grass hay to that of sainfoine, but they did not milk so well.

Another acre he sowed upon the same land, but it coming up thin, he sowed, the year after, half a bushel of ray-grass over

it; and it has since continued very good, but not equal to the other.

Lucerne he also tried. In 1765, he sowed a piece in equally distant drills, six inches asunder, on a shallow limestone; he mowed it three times that year, the growths high, but not thick. In 1766, he also cut it three times; and again the same in 1767, when he manured it, half with ashes and half with dung, but it proved much the best after the ashes: It has since continued good, but upon the whole, not comparable to sainfoine, nor equal to clover.

Burnet he sowed in 1767, with five acres of barley, 20 *lb.* of seed *per* acre. The barley yielded four quarters *per* acre. The burnet was fed down by 40 sheep, for more than three weeks in *April* last, after which it stood for hay; and yielded a large cart load *per* acre; the hay very good, and eat freely by the cattle. I viewed the field, and had no doubt of its proving a very profitable crop; and that it will be a most excellent pasturage for sheep in the spring.

Mr. *Dalton's* method of laying land down to grass is (contrary to common management) to lay the ground quite smooth, and then sow upon every acre,

6 bushels of hay seeds.

12 *lb.* of rib grass.

8 *lb.* white clover.

5 *lb.* burnet.

He manures it well with a compost of earth, dung and ashes mixed together, and also folds his sheep on it two nights in a place, which he finds to answer prodigiously.

His old hide-bound mossy land he tried, in 1763, to cure by means of a scarificator, or five-coultered plough; he tried it by ploughing some and leaving some on long lands.

- N^o 1. He ploughed.
 2. Not touched.
 3. Ploughed and manured.
 4. Manured but not ploughed.

The result was,

- N^o 4. The best.
 3. The next.
 2. The next.
 1. The worst.

From which he concludes, that, upon his soil, the practice is by no means beneficial.

Upon the whole, the public is much obliged to this spirited cultivator for the attention he has given to husbandry. The above experiments shew that he is judicious in his plans, and correct in their execution.

Here you must allow me to conclude this letter, by assuring you how much I am, &c.

L E T T E R XIII.

I Returned to *Richmond*, by the way of *Danby*, the seat of *Simon Scroope*, Esq; one of the most accurate cultivators I have, any where had the satisfaction of meeting with: His experiments are truly valuable, but I shall not attempt their eulogy, being too genuine in the minutes, and designed with too much penetration to need any recommendation from me. I present them to the public with the utmost pleasure.

The first article of this spirited cultivator's trials is cabbages.

1759.

This year's experiments may be called preparatory ones, as they consisted in comparisons between the different sorts of cabbages. Many trials were made on

The *Scotch*,
Russia,
Battersea, and
 Red cabbage.

The first was by much the best, and the red cabbage next. The *Russia* was larger than any, but did not stand the winter well.

He likewise tried a rood of *Savoys*, upon a loamy soil, in rows four feet asunder by one in the rows: They were horse-hoed as the other crops; they came to about 5 *lb.* wt. at an average; the cattle liked them very well, but the plants would not stand the winter.—They are good for nothing.

The *Anjou* grew to the height of seven feet; he plucked the leaves off, which the cattle eat freely:—But it will by no means answer. It is an annual.

1761.

This was the first year Mr. *Scroope* planted this vegetable as food for cattle. The quantity of land, one acre and three roods; the soil a good sandy loam, worth 15 *s.* *per* acre; and manured at the rate of 20 loads of good rich dung, and a chaldron and half of lime *per* acre. The field was winter-fallowed.

The cabbage was the large *Scotch* sort, and the seed sown in *February*; planted directly from the bed into the field the 29th and 30th of *May*, in rows four feet asunder, and three feet from plant to plant. The first horse-hoeing was given the second of *June*, and a hand-hoeing directly after. The 3d and 5th of *July*, the earth was drawn with hand-hoes up to the roots of the cabages. *August* 10th, they were horse-hoed again, and hand-hoed soon after.

The

The 30th of *November*, they were began to be cut for continuing the fattening of five beasts then taken from grass, and 10 sheep; three of the beasts weighed 100 stone 14 *lb.* each, and the sheep sold at 38*l.* a score. One of the beasts was killed the 22d of *December*, the other four were kept till the first of *March*, and likewise the sheep.

The cabbages were cut regularly as they stood (not picked), and given to the cattle upon a dry grass-field: Nothing could thrive better; two of the sheep were killed for trial, the mutton excellent, and perfectly well tasted. The beef also was extremely fine, and had no particular taste. It appeared very plain to Mr. *Scroope* and all his husbandmen, that the cabbages were a much superior food to turnips; as he had 20 other sheep, of the same age and breed, at turnips, while the abovementioned 10 were at cabbages; and the latter evidently came on much faster than the former. The keeping the sheep at cabbages reckoned worth 8*d.* a head *per* week, the oxen 3*s.* 6*d.* a week.

Product.

Fattening 1 ox 3 weeks, at 3 <i>s.</i> 6 <i>d.</i>	£.	0	10	6
Ditto 4 oxen, 3 months,		8	8	0
Ditto 10 sheep, 3 months, at 8 <i>d.</i>		4	0	0

£. 12 18 6

Which is *per* acre, 7*l.* 7*s.* 8*d.*

1763.

The next experiment was on a field of four acres; the soil a cold clayey loam, with clay and gravel under it, rent 12 s. *per* acre. It was well winter-fallowed, and before planting manured with a compost of lime, virgin-earth, and stable-dung, mixed thrice together, 15 loads *per* acre, 22 bushels *per* load.

The seed was sown as before in the spring, and planted directly into the field the 4th, 6th, 7th and 8th of *June*, in rows four feet asunder, and 22 inches from plant to plant. *July* 7th and 8th the first horse-hoeing was given, and a hand-hoeing directly after; but was stopped the 24th by rain; the weather very showery. After this it was horse-hoed twice more.

December 29th, they were began to be cut for

6 Large oxen

4 Calves

12 Sheep.

In *January*, many of the cabbages were weighed; the average weight 13 *lb.* and on an acre 33 tons, 15 Cwt.

February 3d, 31 ewes added to them.

All finished the 10th of *April*. The value of the keeping the beasts, 3 s. 6 d. a week, the calves 1 s. 4 d. and the sheep 8 d.

Product.

Product.

Fattening 6 oxen 14 weeks, at			
3 s. 6 d.	-	-	£. 14 14 0
Keeping 4 calves 14 weeks, at			
1 s. 4 d.	-	-	3 14 8
Fattening 12 sheep 14 weeks, at			
8 d.			5 12 0
Keeping 31 ewes 9 weeks, at 8 d.			9 6 0
			£. 33 6 8

Which is *per* acre, 8 l. 6 s. 8 d.

No cattle could thrive better than the above; the oxen fatted extremely fast, as did the 12 sheep; the calves were in excellent condition; and the ewes never better, the lambs healthy and good, and not one lost through the season.—Barley succeeded, and though the land is not at all favourable to that grain, yet the crop was great.

1764.

This year Mr. *Scroope* extended the culture to eight acres two roods, the land a good loam, worth 15 s. an acre. It was ploughed, for the first time, the beginning of *March*; and, the second time, the end of *April*, from angle to angle. The first week in *May*, two chaldrons *per* acre of lime were harrowed in with ox-harrows, horse ones following. Between the 5th and

and 15th it was ploughed again from opposite angles, and harrowed again. *May* 22d began manuring, 12 loads *per* acre. The 25th, ploughed it into four feet beds, and planted a row on each, 22 inches from plant to plant: The seed sown as before in the spring, and taken from the bed directly into the field; this work was finished the 2d of *June*.

July 10th, the first horse-hoeing was given, and then a hand-hoeing. *August* 4th, they were horse-hoed again, and the 17th hand-hoed. *December* 21st began to cut them for

	6 Fat oxen
	20 Sheep.
The 24th, added	3 Oxen
	8 Sheep.
<i>January</i> 12th,	2 Oxen
	3 Sheep
	30 Head of deer.
——19th,	8 Oxen
	33 Sheep
	3 Calves.
<i>February</i> 12th,	32 Sheep.

April 1st, 8 oxen sold off, and the 20th, all done. The prices of keeping oxen, 3 s. 6 d. Sheep, 8 d. Calves, 1 s. 4 d. Deer, 8 d.

Product.

Product.

Fatting 6 oxen, 14 weeks, at				
3 s. 6 d.	-	-	-	£. 14 14 0
2 oxen 13 weeks and a half, at				
3 s. 6 d.	-	-	-	4 14 6
1 ox 17 weeks,	-	-	-	2 19 6
2 oxen 14 ditto,	-	-	-	4 18 0
8 ditto 13 ditto,	-	-	-	11 4 0
20 sheep 17 weeks,	-	-	-	11 6 8
8 ditto 16½ ditto,	-	-	-	4 8 0
3 ditto 14 ditto,	-	-	-	1 8 0
30 deer, 14 ditto,	-	-	-	14 0 0
33 sheep, 13 ditto,	-	-	-	14 6 0
3 calves, 13 ditto,	-	-	-	2 12 0
32 sheep, 10 ditto,	-	-	-	10 13 0
				£. 97 3 8

Which is *per* acre, 11 l. 8 s. 8 d.

It was found this year, upon trial, that an ox of 100 stone eat 12 stone of cabbages, and half a stone of hay, in 24 hours.

1765.

Eight acres of the same field were again planted this year. Ploughed *May* 8th. Limed three acres of it the 22d, 23d, and 24th, a chaldron and an half *per* acre, and harrowed it in. The 28th began to plant, and finished the 3d of *June*. The 20th of that month, the places of several that had missed were filled up. It was an extreme dry

dry season, and a grub had also attacked the roots of the plants; all that looked yellow had a grub. *July* 17th, they were horse-hoed; the weather still a drought. The 25th, finished the horse and hand hoeing. The drought continued until the 27th of *September*. *October* 2d, heavy rains; the cabbages look well, but backward. In general, they succeed better than turnips.

A minute of expence this year, *per* acre.

Horse-hoeing, 1 horse, and	l.	s.	d.
1 man each time, - -	0	1	6
Hand-hoeing, ditto, -	0	2	0
Planting, - - -	0	2	6
	0	6	0

December 11th,

6 Oxen
4 Calves
1 Cow
10 Sheep,

were put to cabbages; and 11 rows marked out for them, as there were 11 rows of horse-hoed turnips adjoining. Finished *January* the 6th. At the same time, the same number of the same cattle were put to the 11 rows of turnips. Mr. *Scroope* did not minute the exact result; his words are, "Cabbages best beyond all comparison; four to one."

January 24th, added 28 sheep.

February

February 12th, snow for four days, three quarters of a yard deep on the level. Cattle at turnips forced to be put to hay, but those at cabbages were regularly fed through it.

February 20th, added 33 sheep.

March 20th, all finished.

Product.

Fattening 6 oxen, 14 weeks, at	l.	s.	d.
3 s. 6 d. - - -	14	14	0
4 calves 14 weeks, at 1 s. 4 d.	3	14	8
1 cow 14 weeks, at 2 s. 6 d.	1	15	0
10 sheep ditto, at 8 d. -	4	13	4
28 ditto, 8 weeks, ditto, -	7	9	4
33 ditto, 4 ditto, at ditto -	4	8	0
	36	14	4

Which is *per* acre, 4l. 11s. 9d.

This year Mr. *Scroope* had also another experiment on cabbages, containing 6 acres, part of a field of eight; strong gravelly land: Rent 10s. an acre. It was ploughed for the first time in *October*; the second time, from angle to angle, the three last days in *April*: It was to have been ploughed in *March*, but the season was too wet to allow it. *May* 18th and 19th, a chaldron and an half of lime *per* acre, were spread; and 15 load *per* acre of soap-ashes, tanners bark, and horse dung mixed together. *June* 15th, 17th,

17th, and 18th, ploughed for the third time, and planted the 25th of *July*, they were horse-hoed first, and then hand-hoed; the weather very droughty. *August* 19th, 20th, 21st, horse and hand-hoed, a second time.

October 1st, viewed this field of cabbages; they do not look so well as those in the last experiment, the drought having taken a much greater hold on the soil; a gravel:—but very few plants are missing. The 2d, heavy rains, the first that came that continued any time. So great was the drought, that the springs did not rise till the 10th of *December*.

Began to use them *December* 23d, for

5 Oxen,
25 Sheep.

March 18th, added 15 sheep.

Finished *April* 20th.

<i>Product.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>
5 oxen 17 weeks, at 3 s. 6 d.	14	17	6
25 sheep ditto, at 8 d. - -	14	13	4
15 ditto, 5 ditto, at 8 d. -	2	10	0
	32	0	10

Which is *per* acre, 5 l. 6 s. 9 d.

It is here to be remarked, that although the common joisting price *per* week is charged this, as well as other years, yet the

fact is very different. Had Mr. *Scroope* attempted to joist his cattle this year in turnips, he could not have done it at three times, or even four times the above price; turnips failed surprisngly, infomuch that the price they sold at was enormous: Cabbages bearing a transplantation without watering, and supporting the drought so much better, is a very strong argument in their favour; for these reasons, Mr. *Scroope* justly thinks his cabbages this year of prodigious value; was such an one to occur again, he would not sell such a crop at twelve guineas an acre.

1766.

This year several pieces of land were planted: First,

Two acres of a rich black loam, rent 25*s*. per acre. It was an old lay, broken up the year before, and sown with oats. It was ploughed in *February*; and, the 20th of *March*, angle-ploughed it: *April* 15th and 16th, again in opposite angles, and harrowed it. *May* 21st, laid it into beds; and, the 30th finished planting it. *June* 27th, &c. horse-hoed and hand-hoed them. *July* 14th and 15th, horse and hand-hoed them again. *December* 1st, began to use them for

10 Sheep

12 Hogs.

The

The 6th, added, 7 Oxen.

28th, ditto, 6 Ditto

22 Sheep.

February 21st, they were finished, and all fold off.

<i>Product.</i>	<i>l.</i>	<i>s.</i>	<i>d.</i>
10 sheep, 12 weeks, at 8 <i>d.</i>	4	0	0
12 hogs, at 6 <i>d.</i> - -	3	12	0
7 oxen, 11 weeks, at 3 <i>s.</i> 6 <i>d.</i>	13	9	6
6 ditto, 8 ditto, - -	5	17	4
	35	6	10

Which is *per* acre, 17 *l.* 13 *s.* 5 *d.*

This crop was weighed in a very fair and impartial manner; for an outward row on each side was weighed at three different draughts, 10 cabbages at each end, and 10 in the middle; and also three draughts of a middle row, in the same manner; the general average being taken, the weight *per* acre amounted to 52 tons, 13 cwt, and three quarters, and the number of cabbages 6555. — 52 tons 13 cwt. giving a profit of 17 *l.* 13 *s.* is in the proportion of 6 *s.* 7 *d.* *per* ton.

In the same field, and adjoining to this crop, were two rows of turnip-cabbages, managed in every respect as the others. They weighed, when in perfection, 8 *lb.* a-piece at an average; they were given to

A a 2

beasts

beasts and sheep, who eat them freely, but preferred the *Scotch* sort.

Mr. *Scroope* had likewise four acres and a half of *Scotch* cabbages in another field, the soil a sandy loam: Rent 4*s.* 6*d.* *per* acre. This crop was managed like the other, and came to 40 tons *per* acre.

Also another piece of two acres, much the same soil, but rather stronger, rent 4*s.* 6*d.* an acre. These amounted to 23 tons *per* acre.

Also four other acres on a strong gravel; rent 10*s.* manured with a chaldron and an half of lime, and 15 loads of dung *per* acre; they were horse and hand-hoed in the same manner as the rest. Product 25 tons *per* acre.

1767.

This year also this excellent husbandman had several crops of cabbages; first, a five-acred piece, a rich loamy soil; rent 8*s.* 6*d.* an acre. It was a lay, and pared and burnt for turnips the preceding year: The plants were managed like the preceding ones, and the crops amounted to 40 tons *per* acre.

Likewise two acres on a stronger, but cold loam; rent 4*s.* 6*d.* *per* acre. The crop 25 tons; they were not began till the beginning of *March*, and lasted till the end of *April* without decay.

Also

Also two acres upon a rich black loam, 25 s. *per* acre: These weighed 53 tons *per* acre.

1768.

The crops of this year I had the satisfaction of viewing, and exceeding fine they are; but as the cabbages are not yet in perfection, no absolute account can be given of them: They consist of four acres and an half; a good sandy loam; rent 17 s. 6 d. *per* acre, manured with two chaldron of lime *per* acre, winter fallowed, and crows ploughed as before. Mr. *Scroope* expects, and is pretty certain, from former experience, that this crop will come to 35 tons *per* acre.

Two acres, rich black loam, rent 25 s. winter-fallowed. I cut a cabbage in this field, not near in perfection, and neither the largest nor the smallest, that weighed,

					lb.	oz.
Cabbaged part,	-	-	-	-	25	11
Leaves,	-	-	-	-	4	0
Stalk,	-	-	-	-	0	5
					30	0

This crop will amount to 50 tons *per* acre.

Two acres, a clayey loam; rent 4 s. 6 d. winter and spring fallowed, the average weight *per* acre of this crop will be 30 tons.

1769.

Since the first edition of these papers, Mr. *Scroope* has been so obliging to advise me by letter, of the product of one crop of cabbages, among several others, in the year 1769. Three acres, two roods of land; of 25*s.* rent, maintained as follows:

Begun to cut the 30th of <i>December</i> , for				
9 oxen, 12 weeks and an half,				
at 3 <i>s.</i> 6 <i>d.</i>	-	-	£. 19	13 9
8 sheep ditto, at 8 <i>d.</i>	-	-	3	6 8
<i>January</i> 6th 1770, added 4 cows,				
8 weeks and an half, at 2 <i>s.</i> 6 <i>d.</i>			4	5 0
5 calves ditto, at 1 <i>s.</i> 4 <i>d.</i>	-	-	2	16 8
28 sheep a week, at 8 <i>d.</i>	-	-	0	18 8
<i>February</i> 18th, added 18 sheep,				
5 weeks, at 8 <i>d.</i>	-	-	3	0 0
<i>March</i> 9th, added 10 sheep, two				
weeks and an half, at 8 <i>d.</i>	-	-	0	16 8
<i>March</i> 27th, all done.				
Total,	-	-	£. 34	17 5

Or *per* acre, 9*l.* 19*s.* 3*d.*

The 28 sheep mentioned above, for six days, were taken to cabbages, when turnips could not be come at for frost and snow.

Having thus laid before you a part of this excellent cultivator's experiments on cabbages, I shall next draw into one instruction, his sentiments on the method of planting and managing them, being the result of all his experience,

The richer the soil, by much the better ; it ought, if the cabbages are expected to be very large, to be either a rich black crumbly clay, or a clayey loam, and such as throws out great crops of other kinds : A sandy soil will do pretty well, if it be rich, but gravels are bad. The land cannot be too much manured for them ; as Mr. *Scroope* apprehends that no crop will pay so well for rich manuring (if the soil is not very good) as cabbages ; and, for this purpose, he prefers composts of different sorts, well mixed, or horse dung.

The land is first to be ploughed in *October*, to turn in the old stubble (the cabbages being a fallow). The next stirring is to be given in *March*, and two more as soon as dry seasons will permit. If the weather is very dry, it should be harrowed after every ploughing : The two last earths strike it into beds four feet wide, and arch them up. He never, in any of these stirrings, ploughs deeper than for common crops.

The seed is to be sown early in spring, upon a bed of well-dug good earth, one pound is sufficient for six acres of plants.

The end of *May*, or the beginning of *June*, is the time to plant ; they are taken from the seed-bed, and set by the eye along the tops of the beds, two feet from plant to plant. It is a rule never to water, which greatly encreases the trouble and expence

for very little purpose: Mr. *Scroope* has never watered, not even in 1765, when the planting was performed in a severe drought.

The horse and hand-hoeing are always to be performed in dry weather. The first horse-hoeing should be given as soon as any weeds rise; and when that operation is done, the plants should directly be hand-hoed, by drawing away the earth into the furrows, and drawing other earth up to their stems. The hoes nine inches wide. The second horse-hoeing should be given in about three weeks, or a month; the first turns a furrow *from* the plants, and this throws it back again. As soon as it is over, hand-hoe again, as before. With this management, the cabbages will be ready for use in *November* or *December*, and last, without rotting, till the end of *April* or beginning of *May*. The best method of using them, is to cut them regularly as they come, and to carry them to a dry grass field: In this manner all sorts of cattle do exceedingly well upon them. Oxen of an hundred stone, that have had the summer's grass, are finished, and without delay, never going back in flesh (the case oftentimes with turnips), and improving faster than on any other food. All kinds of young cattle maintained through winter in full health and growth to great profit. Cows fed with them to more advantage, six to one, than upon any other

food; the milk being great in quantity, perfectly sweet, and the butter excellent; but the precaution must be observed of picking off the decayed leaves. Fat sheep are carried forward in great perfection, better infinitely than on turnips. Ewes should be put to cabbages about a fortnight before they lamb, by which means they will be in the proper order; the lambs have always proved uncommonly fine and strong. Swine feed very freely on them, and are kept in very good condition without other food.

By means of feeding stock of all these kinds on grass lands, the improvement of them is prodigiously great;—superior to any other manuring.

The expences this excellent cultivator finds as follows, upon his best land.

Expences.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Rent, - - -	1	5	0
Four ploughings, at 4 <i>s.</i> -	0	16	0
Two harrowings, at 1 <i>s.</i> 4 <i>d.</i> -	0	2	8
Seed, at 16 <i>s.</i> <i>per lb.</i> -	0	2	8
Planting, - - -	0	2	6
Two horse - hoeings, with one horse, at 10 <i>d.</i> -	0	1	8
Two hand-hoeings, at 1 <i>s.</i> -	0	2	0
	2	12	6

Upon

Upon the poorer land, it is at an average as follows, rent varying.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Four earths, - - -	0	16	0
Two harrowings, - -	0	2	8
Seed, - - - -	0	2	8
Planting, - - - -	0	2	6
Horfe-hoeing, - - -	0	1	8
Hand-hoeing, - - -	0	2	0

Sundries, - - - 1 7 6

l. s. d.

Lime, $1\frac{1}{2}$ chaldron, at 5 *s.* 0 7 6

Carriage 3 miles, at 2 *s.* 3 *d.*

per chaldron, - - - 0 3 4 $\frac{1}{2}$

Spreading, - - - 0 1 6

15 loads of dung, carriage,

filling and spreading, 0 8 6

— 1 0 10 $\frac{1}{2}$

£. 2 8 4 $\frac{1}{2}$

Having thus stated the expences, it will be proper to enquire into the profit; the average of which in the preceding experiments, may be pretty exactly ascertained. The average expence of manured crops, I rate, as above, at 2 *l.* 8 *s.* 4 *d.* $\frac{1}{2}$.

In 1763, the crop weighed 33 tons 15 cwt. *per* acre, and yielded, in produce, 8 *l.* 6 *s.* 8 *d.* *per* acre, that is 4 *s.* 11 *d.* *per* ton.

One

One of the crops of 1766, paid 6 s. 7 d.
per ton.

The average of these two prices is 5 s. 9 d.
per ton.

Having these data to calculate upon, I shall next proceed to recapitulate the crops, and the produce, and where the joist of cattle is not specified, supply it by a valuation *per* ton; adding at the same time the expences, varied from the foregoing table according to soil, and deducting the one from the other, state the *clear profit*.

	1761.		l.	s.	d.
Product <i>per</i> acre,	-	-	7	7	8
			l.	s.	d.
Expences—Sundries,	1	7	6		
Lime,	0	12	4 $\frac{1}{2}$		
Dung,	0	15	0		
Rent,	0	15	0		
				3	6 2 $\frac{1}{2}$
Profit,	-	-	-	4	1 5 $\frac{1}{2}$

	1763.		l.	s.	d.
Product,	-	-	8	6	8
			l.	s.	d.
Expences—Sundries,	1	7	6		
Rent,	0	12	0		
Dung,	1	0	10 $\frac{1}{2}$		
				3	0 4 $\frac{1}{2}$
Profit,	-	-	-	5	6 3 $\frac{1}{2}$

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	1764.	l.	s.	d.
Product <i>per</i> acre,	- -	11	8	8
		l.	s.	d.
Expences—Sundries,	1 7 6			
Rent,	0 15 0			
Lime,	0 18 6½			
		3	1	0½
Profit,	- - -	8	7	7½

	1765.	l.	s.	d.
	Nº 1.			
Product <i>per</i> acre,	- - -	4	11	9
		l.	s.	d.
Expences—Sundries,	1 7 6			
Rent,	0 15 0			
Lime,	0 12 4½			
		2	14	10½
Profit,	- - -	1	16	10½

	Nº 2.	l.	s.	d.
Product <i>per</i> acre,	- -	5	6	9
		l.	s.	d.
Expences—Sundries,	1 7 6			
Rent,	0 10 0			
Lime,	0 12 4½			
Compost,				
I calcu-	} 1 5 0			
late at		3	14	10½
Profit,	- - -	1	11	10½

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1766.

N^o 1.

			<i>l.</i>	<i>s.</i>	<i>d.</i>
Product <i>per</i> acre,	-	-	17	13	5
Expences,	-	-	2	12	6
Profit,	-	-	15	0	11

N^o 2.

Product, 40 tons, at 5 <i>s.</i> 9 <i>d.</i>	11	10	0
	<i>l.</i>	<i>s.</i>	<i>d.</i>
Expences—Sundries, 1	7	6	
Rent, 0	4	6	
Manure, 1	0	10 $\frac{1}{2}$	
		2	12 10 $\frac{1}{2}$
Profit, - - -	8	18	2 $\frac{1}{2}$

N^o 3.

Product, 23 tons, at 5 <i>s.</i> 9 <i>d.</i>	6	12	3
	<i>l.</i>	<i>s.</i>	<i>d.</i>
Expences—Sundries, 1	7	6	
Rent, 0	10	0	
Manure, 1	0	10 $\frac{1}{2}$	
		2	18 4 $\frac{1}{2}$
Profit, - - -	£. 3	13	10 $\frac{1}{2}$

N^o 4.

Product, 25 tons, at 5 <i>s.</i> 9 <i>d.</i>	7	3	9
	<i>l.</i>	<i>s.</i>	<i>d.</i>
Expences—Sundries, 1	7	6	
Rent, 0	10	0	
Manure, 1	0	10 $\frac{1}{2}$	
		2	18 4 $\frac{1}{2}$
Profit, - - -	4	4	4 $\frac{1}{2}$

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1767.

N^o 1.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Product, 40 tons, at 5 <i>s.</i> 9 <i>d.</i>	11	10	0
Expences—Sundries, 1	7	6	
Rent, 0	8	6	
			1 16 0
Profit, - - -			9 14 0

N^o 2.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Product, 25 tons, at 5 <i>s.</i> 9 <i>d.</i>	7	3	9
Expences—Sundries, 1	7	6	
Rent, 0	4	6	
Manure, 1	0	10	$\frac{1}{2}$
			2 12 10 $\frac{1}{2}$
Profit, - - -			4 10 10 $\frac{1}{2}$

N^o 3.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Product, 53 tons, at 5 <i>s.</i> 9 <i>d.</i>	15	4	9
Expences, - - -	2	12	6
Profit, - - -			12 12 3

1768.

N^o 1.

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Product, 35 tons, at 5 <i>s.</i> 9 <i>d.</i>	10	1	7
Expences—Sundries, 1	7	6	
Rent, 0	17	6	
Lime, 0	16	6	
			3 1 6
Profit, - - -			7 0 1

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N^o 2.

		<i>l.</i>	<i>s.</i>	<i>d.</i>
Product, 50 tons, at 5 <i>s.</i> 9 <i>d.</i>		14	7	6
Expences, - -		2	12	6
Profit, - -		11	15	0

N^o 3.

Product, 30 tons, at 5 <i>s.</i> 9 <i>d.</i>		8	12	6
	<i>l.</i>	<i>s.</i>	<i>d.</i>	
Expences—Sundries, 1	7	6		
Rent, 0	4	6		
Manure, 1	0	10½		
		2	12	10½
Profit, - -		5	19	7½

RECAPITULATION.

Expences.

1761.	Total, - -	£. 3	6	2½
1763.	Ditto, - -	3	0	4½
1764.	Ditto, - -	3	1	0½
1765.	N ^o 1. Total, - -	2	14	10½
	N ^o 2. Ditto, - -	3	14	10½
1766.	N ^o 1. Ditto, - -	2	12	6
	2. Ditto, - -	2	12	10½
	3. Ditto, - -	2	18	4½
	4. Ditto, - -	2	18	4½
1767.	N ^o 1. Ditto, - -	1	16	0
	2. Ditto, - -	2	12	10½
	3. Ditto, - -	2	12	6
	Carry over, - -	£. 34	0	10½

Brought over,	-	£. 34	0	10½
1768. N° 1. Ditto,	-	3	1	6
2. Ditto,	-	2	12	6
3. Ditto,	-	2	12	10½
		£. 42	7	9

Average, 2*l.* 16*s.* 6*d.*

Product.

1761.	-	-	-	-	7	7	8
1763.	-	-	-	-	8	6	8
1764.	-	-	-	-	11	8	8
1765. N° 1.	-	-	-	-	4	11	9
2.	-	-	-	-	5	6	9
1766. N° 1.	-	-	-	-	17	13	5
2.	-	-	-	-	11	10	0
3.	-	-	-	-	6	12	3
4.	-	-	-	-	7	3	9
1767. N° 1.	-	-	-	-	11	10	0
2.	-	-	-	-	7	3	9
3.	-	-	-	-	15	4	9
1768. N° 1.	-	-	-	-	10	1	7
2.	-	-	-	-	14	7	6
3.	-	-	-	-	8	12	6
					£. 147	1	0

Average, 9*l.* 16*s.*

Profit.

1761.	-	-	-	-	4	1	5½
1763.	-	-	-	-	5	6	3½
1764.	-	-	-	-	8	7	7½
Carry over,					£. 17	15	4½

Brought over,				£. 17	15	4 $\frac{1}{2}$
1765.	N ^o 1.	-	-	1	16	10 $\frac{1}{2}$
	2.	-	-	1	11	10 $\frac{1}{2}$
1766.	N ^o 1.	-	-	15	0	11
	2.	-	-	8	17	1 $\frac{1}{2}$
	3.	-	-	3	13	10 $\frac{1}{2}$
	4.	-	-	4	4	4 $\frac{1}{2}$
1767.	N ^o 1.	-	-	9	14	0
	2.	-	-	4	10	10 $\frac{1}{2}$
	3.	-	-	12	12	3
1768.	N ^o 1.	-	-	7	0	1
	2.	-	-	11	15	0
	3.	-	-	5	19	7 $\frac{1}{2}$
				£. 104	12	3

Average, 6 *l.* 16 *s.* 9 *d.*

Such is the state of this most excellent cultivator's experience on cabbages; the facts are too incontestible and striking in their nature, and too accurate in their register, to leave the point they prove the least in doubt. From this day I cannot but suppose the culture of cabbages will become as common in *England* as turnips; and the same honour, in all future times, be due to the name of SCROOPE, the father of this most excellent husbandry, that we now pay to those of *Weston* and *Tull*, the introducers of turnips and clover. Sincerely do I think, that cabbages are more valuable in husbandry than either of those vegetables.

Potatoes.

Mr. *Scroope* has, for many years, tried numerous experiments on this most useful root: But as the result of them has been remarkably uniform, it will be sufficient to sketch the method of culture he follows, and which has been generally successful.

The soil fixed on, preferably to others for potatoes, is a sandy loam. It is ploughed three times in spring; in the third ploughing the slices of potatoes are laid in the furrows, one foot from each other, with a handful of long dung to each set, so as to come up in equally distant rows, two feet asunder; the sets and dung are covered in the ploughing. Eight bushels of potatoes and five loads of dung are sufficient for an acre. When the plants are about two or three inches high, the land is harrowed level. The rows are afterwards horse-hoed twice, and hand-hoed once or twice. The crop is ploughed up; a person follows the plough to pick them up; it is then harrowed, the harrows followed in the same manner; after this it is in the same manner ploughed and harrowed again, and wheat harrowed in; the crop of which is always good. The average crop of potatoes 216 bushels *per* acre. One potatoe last year weighed 18 ounces.

Lucerna

Lucerne.

The experiments which this gentleman has tried on lucerne, though not upon a very large scale, are extremely satisfactory.

In 1761, he sowed half an acre alone in drills: The soil, a strong loam upon a cold wet gravel. The plants all died away the second year.

In 1766, he drilled seven rows equally distant, four feet asunder; the soil a rich black loam, worth 25 s. *per* acre, the 23d and 24th of *May*. The 17th of *June*, they were horse-hoed and then hand-hoed. The 14th of *July*, horse-hoed for a second time, and then hand-hoed again. *August* 14th, cut them; and again afterwards. The first cutting maintained four coach horses and five calves six weeks. The second kept seven horses a month.

In 1767, it was cut three times; and maintained seven horses from the first cutting, the middle of *May*, all the summer, to the end of *September*: It was horse and hand-hoed thrice.

In 1768, when I viewed it, it had been cut thrice, and would yield another small cutting. From the middle of *May* it has kept six horses.

From an accurate inspection into the soiling these horses, it appears that the feeding them with lucerne has regularly saved 12 s. 10 d. a week in hay.

The proportion therefore, for the seven last years, is 14*s.* 11*d.* and the average 13*s.* 10 $\frac{1}{2}$.

20 weeks, at 13*s.* 10*d.* $\frac{1}{2}$ £. 13 17 6
which is *per* acre, - - £. 43 8 11

A much higher produce than ever I heard of before, and far exceeding *Rocque's* utmost efforts close to *London*.

Carrots.

Several years ago, Mr. *Scroope* had an acre of fine carrots on a rich loam. A very large ox was fed on them, but in three weeks he surfeited; the food was then changed, after which, by giving small quantities at a time, he did extremely well on them.

In 1766, a bed was drilled in single rows, four feet asunder, upon a rich black loam. They were horse-hoed thrice, but left quite thick in the rows. The carrots were very fine, 18 inches long, and 11 in circumference. They were given to pigs, who fattened so well upon them, that a few pease finished them, and the fat was very fine and firm.

Drilled Turnips.

In 1766, a piece of turnips was drilled, in rows equally distant, four feet asunder, and 12 inches from plant to plant; they were horse-hoed twice, and hand-hoed twice. The average weight of the turnips 7*lb.* 8 ounces, which is a very considerable produce; for it amounts to 36 tons 9 cwt. *per* acre.

Drilled

Drilled Wheat.

In 1759, Mr. *Scroope* drilled some wheat upon a cold loam, rather springy: It was well prepared by a summer fallow. The first week in *October* it was drilled, in equally distant rows 22 inches asunder; the corn came up very finely. From *Christmas* to the end of *February*, catching hard frosts, and a deep snow; the end of that month the frost broke. Fine weather to the 7th of *March*. On the 8th, the rows were horse-hoed for the first time, with M. *Du Hamel's* miner. The corn looks but indifferent, having suffered by the frosts.

May 23d, hoed again with the same instrument; much recovered since the first hoeing. *June* 16th, hand-weeded. *August* 13th, began to reap; but some broad-cast adjoining, not till the 23d.

Two acres and one half in the old husbandry produced 99 stooks, each 12 sheaves, which yielded 99 bushels, or *per* acre 38 bushels.

One acre in the drilled way produced 24 stooks, each ten sheaves, which yielded 24 bushels.

				<i>Q.</i>	<i>B.</i>	<i>P.</i>
Old husbandry,	-	-	-	4	6	0
New ditto,	-	-	-	3	0	0
Superiority of the former,	-	-	-	1	6	0

This is an important experiment, and proves sufficiently clear, that, on such land, the old husbandry is much superior to this mode of drilling.

1760.

This year six acres of a strong loam, inclining to clay, were summer-fallowed by five common ploughings and one across. *October* 3d, it was drilled in beds, three rows, nine inches asunder, with intervals of three feet. Upon one part, only two rows upon each bed; finished drilling *October* 7th.

October 22d, the wheat comes up, and looks well: Weather very seasonable without frosts. A mild winter with little frost or snow.

March 29th, 30th, 31st, horse-hoed for the first time, and looks well.

May 12th, a second time, the ground in good order but very dry, the wheat rather thin. The 14th finished. Hand-weeded after it.

Memorandum. The high winds, and a pack of foxhounds, prevented more horse-hoeings. *August* 29th, the corn got in, the crop nine bushels two pecks *per* acre.

1761.

The same six acres were this year sown again in the same manner, and horse-hoed thoroughly: The product eight bushels three pecks *per* acre, which weighed 71 *lb* *per* bushel.

1762.

The same field was again drilled this year; managed in all respects as before, the crop eight bushels *per* acre.

1763.

These six acres were again drilled this year: The culture as before: Product *per* acre 10 bushels.

1764.

This year the field was drilled again for the last time, in the same manner as before: The culture while growing also the same. Product *per* acre nine bushels.

Observations.

This experiment would have been continued; but it was found on so many repeated trials to be very trivial and unprofitable, that Mr. *Scroope* gave it up, tired out with continued ill success: He gave a regular attention to all the operations; and they were effectually and vigorously performed; the soil kept loose and perfectly clear of weeds. Had it been cropped in the old husbandry, the profit would have been considerable, but in this method the loss was great.

In general these crops were extremely subject to being laid by wind and rooks, and then to being destroyed by mice; and this infinitely more than any broadcast crops. In this method the land should not be at all

exposed to the weather. The land was at last in extreme good condition.

The horse-hoeing cost 2 s. *per* acre, and the hand-weeding 2 s.

Drilled Beans.

In 1760, two acres of a strong gravelly soil, partly inclined to clay and stoney, were drilled with beans, with Mr. *Vanduffel's* drill-rake; the rows equally distant, two feet asunder: One bushel of seed *per* acre, the beans being dropt five inches from each other.

In the same field two acres were sown in beds, with three rows, five inches asunder, and intervals three feet two inches wide: two bushels of seed *per* acre.

Also two acres in the same field, drilled after the common plough, every other furrow, two bushels *per* acre.

The remainder of the field, two acres sown broadcast, under furrow, three bushels and one peck, and two pecks of lentils mixed among them, *per* acre. All were harrowed, after sowing, with the teeth upwards, not to draw any of the seed out.

Remark. Mr. *Vanduffel's* drill-rake, improper for land where there is stubble, as it choaks up; and where there are stones, it jumps out of its work.

May 16th, first horse-hoed the equally distant rows. But the beans look very indifferent,

indifferent, part of the seed being destroyed by the crows. Those in beds look well, and promise fair. Those drilled after the plough look much the best, but come up so irregularly, that there is no horse-hoeing them.

The beds were next horse-hoed; and those sown after the plough hand-hoed.

June 23, the second horse-hoeing was given.

September 4th, 5th, and 6th, the crops reaped. That upon the beds the ripest. The equally distant rows the least ripe, but best loaded.

Product. *Q. B. P.*

The two acres, equally distant rows, produced, 2 1 2
Or *per* acre 1 quarter 3 pecks.

Its crop would have been better, but the land was not above half seeded; otherwise it would have been great, for some of the stalks had 40 and 50 pods.

The two acres in beds produced, 1 6 0
Or *per* acre 7 bushels.

The two acres, after the plough, produced, 3 4 0
Or *per* acre 1 quarter 6 bushels.

The two acres of broadcast produced of beans, 2 7 0

Of lentils, 0 7 2

In all, 3 6 2

Or *per* acre 1 quarter, 7 bushels, 1 peck.
Product,

	Q.	B.	P.
Product, <i>per</i> acre, of the broadcast,	1	7	1
Ditto, of those sown after the plough, - - -	1	6	0
The former superior by	0	1	1
Product, <i>per</i> acre, of the broadcast,	1	7	1
Ditto, of the equally distant rows,	1	0	3
The former superior by	0	6	2
Product, <i>per</i> acre, of the broadcast,	1	7	1
Ditto of the beds, - -	0	7	0
Former superior by - -	1	0	1
Product, <i>per</i> acre, of those sown after the plough, - -	1	6	0
Ditto, of the equally distant rows,	1	0	3
Former superior by - -	0	5	1
Product, <i>per</i> acre, of those sown after the plough, - -	1	6	0
Ditto, of the beds, - -	0	7	0
Former superior by - -	0	7	0
Product of the equal distant rows, - - -	1	0	3
Ditto, of the beds, - -	0	7	0
Former superior by - -	0	1	3

This

This experiment, in relation to product, is very clear and satisfactory; and shews that the broadcast method had advantages not equalled by these modes of drilling.

Drilled Garden Vegetables.

In the year 1766, Mr. *Scroope*, in his experiment ground *, drilled many sorts of garden plants, in single rows, four feet asunder, horse-hoed them thrice, besides hand-hoeings and weedings. Onions, cellery, endiff, garden-beans, coss-lettuce, cauliflowers, and carrots, all proved incomparably good; and not only sweeter than his gardener raised in the garden, but likewise larger and fairer. The first dish of artichokes was eat upon the 5th of *June* 1769, the last upon 3d *Jan.* 1770, “a proof, says this gentleman, that garden-stuff may be cultivated to a greater perfection in the fields than in the garden, and to be had there, when they are not to be gained in

* The mention of this field reminds me of a precaution taken by this exceedingly sensible cultivator, which should always be imitated: He had remarked, in reading the modern books on agriculture, that numerous trials were rendered useless by cattle breaking into experiment grounds; he was determined to meet with no accidents of that kind, and accordingly pailed in the whole field, so that a horse, cow, sheep, and hog, are not only kept out, but even a hare,

the latter." The soil of the experiment ground is a rich black mold, worth 25 s. *per acre*.

Madder.

In *May* 1768, one row of madder plants, four feet from the rows of other things, and eight inches from plant to plant, was set in the experiment ground: I never viewed any plants more luxuriant. They are regularly horse-hoed and hand-weeded; and will, I have no doubt, become in two years a fine crop, and a vast one in three. Mr. *Scroope* proposes extending the plantation to more rows by slips. No soil can possibly be better suited to it.

Hollow Drains.

In the draining wet soils, this most spirited cultivator has found no method so efficacious as the hollow drain. His method of making them is to cut a trench 27 inches deep, 18 inches wide at top, and four inches wide at bottom; they are filled up by crouding large stones in, so as to lodge (wedged) within six or eight inches of the bottom: Over these they are filled up with smaller stones within a foot of the surface; over these, is a layer of bean straw, and then the remainder of the trench is filled up with the molds.—The digging costs 3 *d.* a rood.

Their effect is prodigious; the wettest soils are at once laid dry and sound, and
instead

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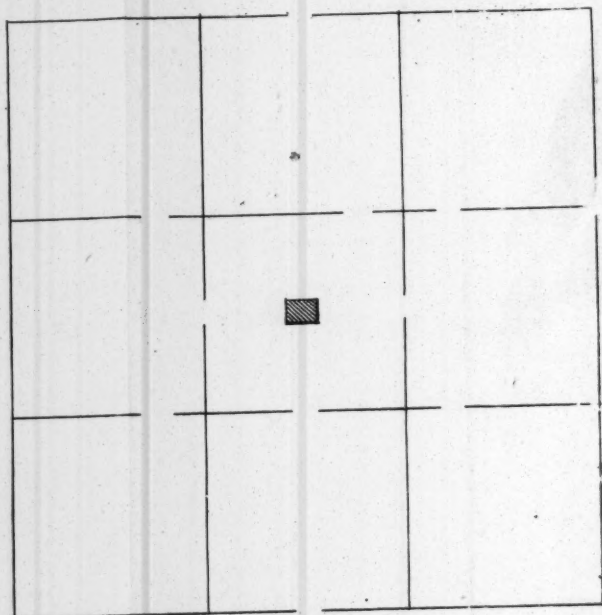


Fig. 1.

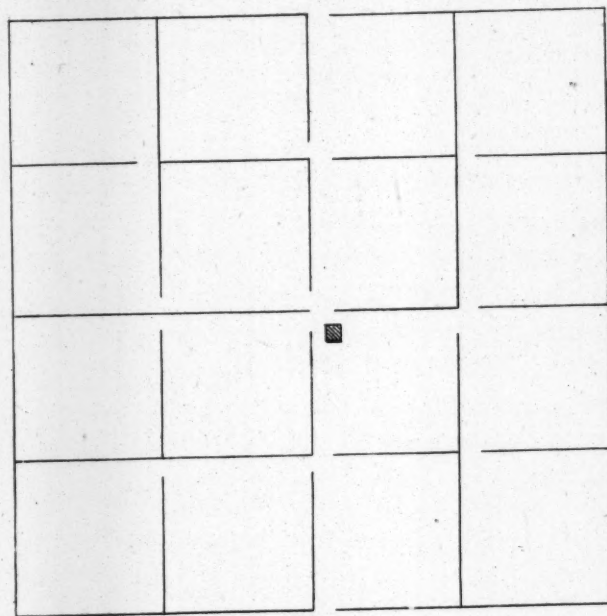
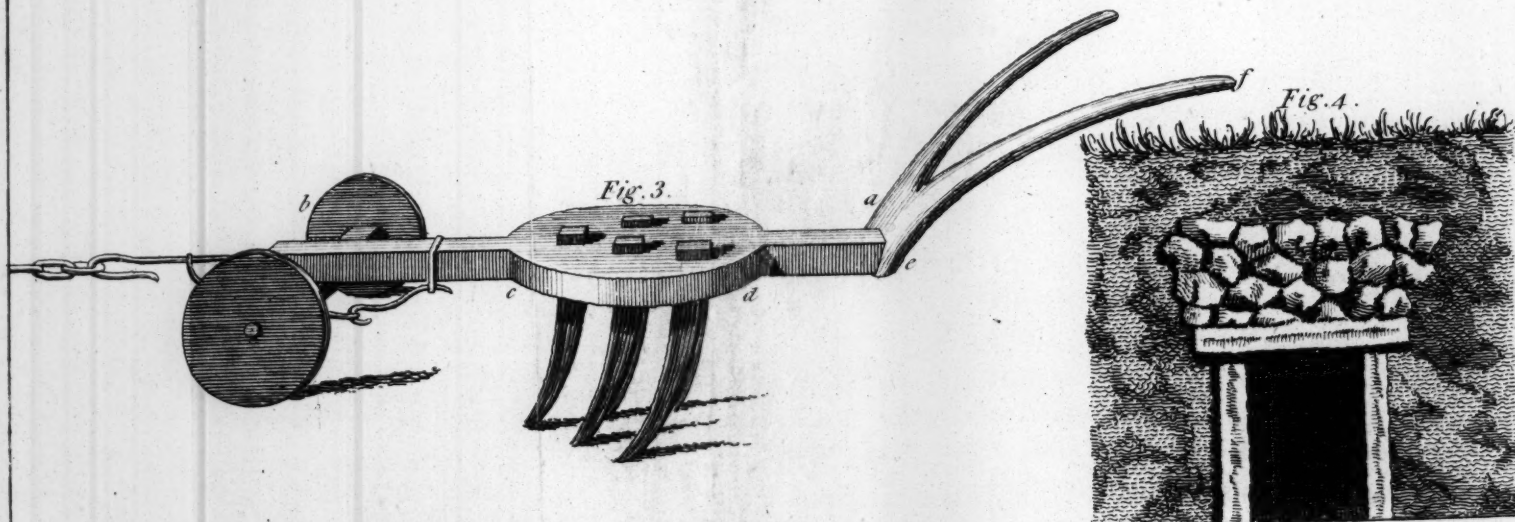


Fig. 2.



instead of being poached all winter with the least treading of cattle, they are left perfectly firm, and bear an ox of the largest weight. The method is an exceeding good one.

Manures.

The experiments which this gentleman has formed on manures, are particularly valuable; as they are designed with great penetration, and executed with no less spirit.

In the winter of 1758, a very large compost hill was formed, in the following manner. First, a layer was made of farm-yard dung; next one upon that of virgin earth; a third of lime; the fourth of virgin earth; the fifth of dung; the sixth virgin earth, and the seventh of lime.

In these composts, Mr. *Scroope* makes it a rule never to lay lime and dung together, on account of burning; but throws the lime between two layers of earth.

In the following summer, this hill was turned over twice, and well mixed together. In the winter of 1759, it was again well turned over. *March* 9th, &c. 1760, it was used upon a pasture, to the amount of 296 loads, 60 were laid *per* acre. Part of the field was ploughed with an instrument, which Mr. *Scroope* has found very serviceable: — a five coultered scarificator. Of which I took this sketch, plate IV. fig. 3.

a to b

a to b 6 feet 6 inches.

c to d 2——6——

e to f 4——

The oval coulter-board 15 inches broad. The coulters three inches from each other; two feet three inches long, and four inches wide. The axle-tree 22 inches long; the wheels 18 inches diameter.

That part of the field that was ploughed was much better than the other part. But the virtues of the manure were so potent, that the whole has been infinitely better ever since.

This pasture was ill laid, hide-bound and mossy, supposed to be owing to long ploughing, and so much lime being laid on it as to attract all the oleaginous juices from the soil, which is a cold gravelly clay. That part of it that was ploughed with the scarificator, the cattle were much fonder of, and eat more bare than the other part; and the great advantage of the scarificator was also very evident in mowing, in 1761, as it was there all spread with white clover and yellow trefoile, insomuch that the neighbours imagined, that the seeds had been sown. In 1761, the stack from the whole was 15 yards long, and $5\frac{1}{2}$ wide, and well carried up; in quantity three times as much as ever grew upon the field before. In 1762, it was pastured. In 1763, mowed again, the stack 12 yards long and 6 wide; the

the scarificated part continued much the best, the crop supposed to be 24 tons; in the whole 17 acres. It was before let at 10 s. *per* acre.

In *February* 1760, another experiment was tried on manuring in this method: A grass field was divided into three parts:

- Nº. 1. Was ploughed with a scarificator, and then manured with soap-ashes.
2. Manured with soap-ashes, and then ploughed with the scarificator.
3. Manured with soap-ashes, and not ploughed at all.

In 1761.

- Nº. 1. Was much the best.
2. The next.
3. The worst.

In 1762, another trial was made on another field of 17 acres, a gravelly soil, managed as before; but the soap-ashes here did not answer; the scarificating equally as before.

These experiments are all clear in the result, and cannot be controverted: — you will however, doubtless recollect, that those made by Mr. *Dalton* at *Sleningford*, turned out very differently;—but this variation must be owing to a difference of soil; that gentleman is situated upon a shallow limestone land, and he mentioned particularly, that the scarificator was thrown out of its work by stones; from whence we may

may conclude, that the implement was useless on *stoney* soils; and from Mr. *Scroope's* experiments, that it is excellent on *clay*, *loam* and *gravel*.

Such variations, in using the same instrument, cannot be uncommon: All experiments, though conducted with ever such exactness, and similitude of conduct, will vary with the soil: And from thence results the great use of *trying* every thing upon all sorts of soils.

The following account of the common husbandry in the neighbourhood of *Danby*, will illustrate the preceding particulars.

The soil, in general, is a gravelly clay and loam; lets at from 10*s.* to 15*s.* the arable. Farms from 30*l.* to 200*l.* The course of crops generally three to a fallow. For wheat, they plough three times, sow two bushels, or two and an half if old ploughing, the latter end of *October* and beginning of *November*, and gain from 20 to 25 bushels *per* acre. For barley, they plough three times, sow two bushels, and two and a half, in *April* or beginning of *May*, and gain from three quarters to five *per* acre. They plough once for oats, sow four bushels on an acre in *March*, and gain from 30 to 40 bushels in return. They plough once for beans, sow four and 4½ bushels broad-cast in *February*, never hoe them, and gain from 20 to 25 bushels, use them

them for horses, beasts and calves, and split or ground for horses and calves. They plough once for pease, sow four bushels, and $4\frac{1}{2}$ (never hoe them) in *March*, and gain from 30 to 35 bushels. They plough three times for rye, sow $2\frac{1}{4}$ bushels, and gain from 40 to 50 bushels *per acre*; it is sown in *October*, or spring rye in *March*. For turnips, they plough three times, never hoe them, but value a crop from 1 *l.* 10 *s.* to 3 *l.* *per acre*, and use them for sheep, for oxen, cows and calves. They pare and burn for rape, and plough once after it; sow it in *July* and *August*, never feed it, but gain from 40 to 50 bushels an acre; it is succeeded by maslin, *i. e.* wheat and rye mixt.

They sow 12 pounds of clover on an acre, with oats, barley or bigg, gain about three tons of hay; reckon they have better crops after mowing than feeding; many keep it two or three years in mowing, and generally sow wheat after it.

In manuring, they lay three chaldrons of lime (32 bushels to the chaldron), for which they give 7 *s.*; 1 *s.* 8 *d.* a mile for leading, and 2 *s.* 6 *d.* an acre spreading; expence of paring from 11 *s.* to 13 *s.* *per acre*, of burning, 3 *s.* 6 *d.* ditto of spreading, 1 *s.* 8 *d.*

They stack their hay in the fields, never chop stubbles, nor fold sheep except upon turnips; of ashes they lay from 15 to 25 loads on an acre; town dung on grafs and

arable, 20 load an acre; they seldom marle, never on grafs ground, nor use any composts.

Good grafs land lets from 20 s. to 30 s. *per* acre, for vast numbers of beasts; but more dairying, butter being the commodity of the country; allow an acre and a rood of grafs to each ox or cow, and five sheep to an acre. The farmers never lay any manure at all on to land of this value. Their breed of horned cattle, chiefly *Holderness* and *Dutch*. Of oxen, from 60 to 120 stone. Profit on a beast of 50 stone, 4 l. if sold before *Martinmas*, but more if kept the winter. They reckon an acre of the above land, will fat an ox of 50 stone. The value of an ox hide from 15 s. to 2 l. 10 s.; the *Lancashire* hides will give more. They reckon the profit from breeding greater than from buying in, if the stock is good. The produce of a cow 6 l. 7 s. They give, in *May*, *June*, and *July*, from five to nine gallons of milk *per* day. They allow four or six hogs to be maintained by 10 cows. Calves suck ten days or a fortnight; give them skim milk, and some give linseed cakes. A dairy maid will take care of ten cows. If a cow calves early, her winter hay will cost 2 l. 10 s.—from that to 3 l. they reckon the joist of a cow in winter. In summer from 25 s. to 35 s. and 40 s. Never keep them in the house, till after calving; and if the weather

is good, turn them out again in a month or six weeks; this is in case they calve about *Candlemas*, which is the most usual time for breeding stock. The size of their flocks, 200 sheep in 100 acres of feeding land to a proportionable stock of other kinds, profit *per* sheep, 8*s.*; reckon in winter, that one acre of good turnips will keep 20 sheep, the average fleece from 6 to 7 *lb.*

To 100 acres of arable land, they keep four horses and six oxen, and drive two horses and two oxen in a plough; do an acre a day; reckon the annual expence of a horse 4*l.* 5*s.* a year, the summer's joist of one, 1*l.* 10*s.*; in winter, 2*l.* 15*s.* feed their oxen, in winter, with oat and barley straw, &c. The size of their swine, 20 to 25 stone, 14 *lb.* to the stone.

They break up their stubbles in *September* and *October*, give 4*s.* 6*d.* or 5*s.* an acre for ploughing. Never chop straw into chaff, but mix their chaff with the corn for horses. Hire of a cart, three horses, and driver, from 4*s.* to 5*s.* a day. Average of hay *per* ton, for seven years, from 25*s.* to 30*s.* In the hiring and stocking farms, they reckon 400*l.* sufficient for 100*l.* a year, half grass, half arable, some of the particulars as follows:

Half a year's rent in hand, 50*l.*

Seed for sowing down spring corn,

12*l.* 10*s.*

To the management of fallow, 13*l.* 10*s.*

Implements, 40*l*.

They give from 33 to 37 years purchase for land.

Tythe composition for wheat in general, 2*s*. in the pound rent; employment of the poor at spinning, earn from 4*d*. to 7*d*. a day, young and old at knitting from 4*d*. to 6*d*. Mostly drink tea.

They carry their corn from five to seven miles computed.

Leases from 7 to 21; terms from three to five years; lives none.

Surveyor's rate, 3*d*. *per acre*.

LABOUR.

In harvest, men, 1*s*. and 1*s*. 6*d*. a day, women, 9*d*. and 1*s*.

In hay-time, men, 1*s*. women, 8*d*.

In winter, men, 10*d*.

They seldom reap by the acre.

Mowing spring corn, they have 1*s*. 6*d*. an acre.

Grass, 2*s*.

Ditching *per rood*, 4*d*. to 8*d*.

Thrashing wheat, 3*d*. a bushel.

Barley, from 1*s*. to 1*s*. 3*d*. *per quarter*.

Oats, from 10*d*. to 1*s*. 2*d*. ditto.

Beans, from 10*d*. to 1*s*. ditto.

Water-furrowing with a spade, $\frac{1}{2}$ *d*. a rood.

Filling carts, from 1*s*. 6*d*. to 2*s*. *per score*.

Head-man's wages, 15*l*. a year.

Plough lads, 6*d*. a day.

Boy

Boy of 10 or 12 years old, 4*d.*

Dairy-maid's wages, from 5*l.* to 6*l.*
a year.

Other maids, 3*l.* to 5*l.* ditto.

Value of a man's board, washing and lodging, 3*s.* 6*d.* a week.

Maid's, ditto, 5*l.* or 6*l.* *per annum.*

Their hours of labour in a day, from eight to six, but few work so long. In winter, from nine to five.

Rise of labour within 10 years, 3*d.* *per*
day.

IMPLEMENTS.

A waggon, 20*l.*

A cart, 7*l.* to 8*l.*

A plough, 1*l.*

A harrow, 11*s.*

A stone-roller, 1*l.* 2*s.*

A scythe, 5*s.* to 6*s.*

A spade, 3*s.* 6*d.* or 4*s.*

Laying a share, from 4*d.* to 6*d.*

A coulter, ditto to ditto.

Shoeing a cart-horse, 1*s.* 4*d.*

Wheel-tires, 3*s.* 8*d.* *per* stone.

PROVISIONS, &c.

Bread, - - 12*lb.* for 11*d.*

Cheese, (skim milk) 2*s.* 4*d.* a stone.

Butter, - - 8*d.* and 9*d.* *lb.*—22 oz.

Beef, - - 3½

Mutton, - ditto.

Cc 3

Vcal,

[390]

Veal, - - 3*d.*

Pork, - - 4

Bacon, - - 6

Milk, *per* pint, $\frac{1}{2}$ *d.*

Potatoes, *per* peck, 4*d.* and 6*d.*

Turnips, ditto, $2\frac{1}{2}$

Candles, *per* lb. $6\frac{1}{2}$ and 7*d.*

Soap, - - $6\frac{1}{2}$

Labourer's house-rent, *per annum*, from 5*s.*
to 30*s.*

— firing, 17*s.* 6*d.* with breaking
hedges.

— tools, 12*s.* 2*d.*

Price of coals, 7*d.* 3 bushels,

BUILDING.

Bricks, *per* 1000, 7*s.* 6*d.* or 10*s.* 6*d.* from
the retailers.

Tiles, ditto, 2*l.* 2*s.* and 2*l.* 5*s.*

Oak timber, *per* foot, 1*s.* 6*d.*

Ash, from 10*d.* to 14*d.*

Elm, from 1*s.* 2*d.* to 1*s.* 4*d.*

Soft woods, from 8*d.* to 9*d.*

Mason *per* day, 1*s.* 8*d.*

Carpenter, ditto.

Poor rates, in 1730 and 1740, at 3*d.* *per*
pound, 1760 to 1769, at $5\frac{1}{2}$ *per* pound.

Mr. *Scroope's* common husbandry con-
sists in improvements upon the preceding
system.

He takes but two crops to a fallow, gives
five or six ploughings for wheat, first and
second,

second, from angle to angle *, and harrowing after each, sows in *September*, or as soon as possible in *October*, and gets 30 bushels on an acre in general, better in quality than the common; he ploughs as often for barley, unless after turnips or cabbages, and sows two bushels of seed; sows it the latter end of *March* or early in *April*, and generally reaps five quarters. He sows the *North Frizeland* kind of oats, three or three and an half bushels to an acre, in *March*, and gains 50 bushels or better upon good loam, and has had 80 bushels *per* acre.

He ploughs three times for beans; sows three bushels, or $3\frac{1}{4}$ broad-cast in *February*, and gains from 28 to 35 bushels; seldom cultivates any pease, unless to plough in for manure, and then sows three bushels in *February*. Gives the same earths for rye as for wheat, gains from 40 to 50 bushels *per* acre, and which weighs three or four pounds more a bushel than the common; it is little used, as the poor people will scarcely buy it.

For turnips he ploughs five times, hoes them in *June*, *July*, and *August*, and values them from 4*l.* to 5*l.* *per* acre, uses them

* This is an excellent practice, but not so common as it ought, though recommended by *Virgil*:

*Et procisso quæ suscitât aquore terga,
Rursus in obliquum verso perrumpit aratro.*

for fat oxen, sheep, calves, and cows (except milch). This gentleman has fed many sheep upon rape, and the crop answered extremely well; he thinks the better for it, as he observed it yielded most where it was nearest eat; he had 80 sheep upon 17 acres, and sold 20 of those sheep for 40 guineas; he had twelve last of seed upon those acres, 80 bushels to the last.

This is a remarkable observation: The practice is totally contrary to that of nine tenths of the country I have hitherto travelled; wherein they think that feeding it, at any time, ruins the crop of seed; but especially if late enough in the spring to make the food of particular value. It is a point that should be experimentally examined. Mr. *Scroope*'s trial is important.

This gentleman never keeps clover more than one year, and ploughs in the after-grass, upon which he gets a good crop of wheat; he has had pretty good crops of tares, and extreme good oats after them, the tares sown after barley.

His general practice is to lay fifteen loads of dung upon an acre, besides two chaldrons of lime; of soap-ashes he lays from 25 to 30 load *per* acre, also common ashes. Sometimes lays 40 loads of town-dung *per* acre, and has laid the same of clay on an acre of gravelly land in ploughing, which has answered extremely well. The compost he

has

has chiefly made use of is a mixture of lime, virgin earth, dung of all kinds, with soap-ashes; and to take care that the lime and horse litter do not lie together, (as it will be apt to fire) it must be turned as soon as the lime is found dead, otherwise it will run together and cement; this kind of compost should be turned at least three times, if you lay it upon grass anywise mossy: He should recommend *Du Hamel's* cultivator, or five-coultered plough, properly set for the soil, to be run over the ground before you lay the compost on. *N. B.* This compost has answered and improved all the different soils this gentleman has tried it on, particularly stoney, gravelly clay: From being let at 10 s. *per* acre, it is let at 1 l. 2 s. 6 d. *per* acre.

Mr. *Scroope* has observed, that land in general that wants draining has a *stratum* of clay, otherwise the water would not be kept up so near the surface, (except where it is a peat-earth). The first thing to be done is to take the proper levels, and consult from whence comes the origin of your springs. A main drain then is to be properly placed, and side drains from that main drain; all these to be cut into the clay, which you will generally have before you, are three quarters deep. The drains at the top should be at least two feet wide, at the bottom three inches, having proper spades for that purpose;

pose; he would chuse to fill them all with stone, many do it with small faggoting, others with sods, the grass-side downwards, cut like a wedge; this latter is what is commonly used, but he has found by experience they soon decay. Bean-straw, or any straw, is laid upon the stones, before the drains are filled up. Expence, 3*d.* and 3½*d.* a rood for digging, 2*d.* a rood for filling with stone, and filling up the level, 3½*d.* for leading and getting of stone, if it is got out of a quarry; it will be less, if the stone is got upon the land.

Mr. *Scroope* has always kept to the *Hol-dernefs* and *Dutch* breed of horned cattle; he has had oxen of 135 stone, 14*lb.* to the stone; he generally sells his three year olds, after wintering, at 21*l.* and 22*l.* *per* beast; gives his calves new milk for two months, then old milk and bean-meal till they are turned to grass, or feed them with good lettuce, lucerne, &c. He has found that one acre of good turnips will keep 20 sheep the winter, but that one acre of cabbages will keep above 50. The weight of his wool, *per* sheep, generally runs to 12 or 14*lb.* that are fat, the first year clip 10*lb.*

This gentleman's method of laying arable to grass, is first to reduce the moulds as fine as possible by a fallow, sowing it down with barley or bigg, the latter he would chuse in *moor* soils; after the corn is
come

come up, sows eight bushels of common grafs-seeds, two pound of cow-grafs, ditto of rib-grafs, ditto of yellow trefoil, and rolls it the first dry season.

* * *

This series of experiments made by Mr. *Scroope* at *Danby*, are equally valuable with those of any author antient or modern: Most of his trials are completely registered, and fully satisfactory in the result: All are candid and accurate, and demand the sincerest tribute of praise from every lover of husbandry. But his experience extends further; and embraces not only the improvement of lands already in husbandry, but the cultivation of waste tracts, of no use either to the owner or the nation, until this most spirited cultivator reduced them to order and profit.

At *Dalton*, about sixteen miles from *Danby*, and nearer to *Richmond*, this gentleman possessed an extensive moor, which yielded no other advantage than his tenants adjoining turning a few sheep on it: A large tract of land, in such a condition, gave so active a genius much uneasiness. He determined to attempt the improvement, however expensive—and make a dreary country smile with cultivation, notwithstanding the prophesied ill-succes and ridicule of many of his neighbours.

It

It is in such resolutions that a man rises superior to the common herd——In the moments of mental activity, when the soul has the courage to pursue the visions of the fancy, and realize ideal worlds. Impossibilities exist only with the vulgar.——The character of a great man has in almost every instance been gained by those attempts, which little minds call rash. When the idea is spirited, there is honour even in ill-success.

Magnis tamen excidit ausis.

Mr. *Scroope* had the courage to attempt what was deemed absurd to think of; and he had the conduct to command success.

He began his works in the year 1755, by marking out a contiguous 900 acres. In that tract was some of the soil, called in *Yorkshire* white earth, that is very good land, but quite uncultivated, and partly over-run with spontaneous rubbish. But most of it was a black peat moor, bearing a short stunted ling.

His first business was the inclosure, which he did by walling; the surface of the moor yielded, in some places, a sufficiency of stones for this work, but in many others pits were sunk for them, the quarries are all lime-stone, and mostly near the surface. The first year 289 roods were built of the ring fence. This work was all contracted
for

for by the measure, at 5*s.* 6*d.* a rood, of seven yards long, and five feet high. A gate, two posts, and the irons, came to 6*s.*

At the same time that this business was carrying on, the foundations of a farmhouse and offices were laid: But as something more than a slight account of these improvements is here meant, it will be useful to minute the size and expence of these buildings, that false ideas of the expence of improving uncultivated lands may not become more common than they are already.

The house was 170 feet in circumference by 18 feet high, or 234 superficial yards. The gables, above the line, 11 by 14, or 28 superficial yards. Two partition-walls, 14 by 18 each, or 56 superficial yards. Partition-gable 14 by 12, or 18 yards.

The circumference of the stable was 80 feet by 11 high, or 97 superficial yards. Gable-tops 16 by 12, or 21 yards.

In both, 455 yards, at 6 <i>d.</i> per yard, workmanship; the wall		<i>l.</i>	<i>s.</i>	<i>d.</i>
22 inches thick,	- -	11	7	6
Two chimnies to the first floor		1	10	0
Ditto, the second floor,	' - -	1	1	0
Carry over,		13	18	6

	<i>l.</i>	<i>s.</i>	<i>d.</i>
Brought over, - -	13	18	6
Edging of the gables, called windfkews, - -	0	7	6
An oven, - -	0	8	0
36 Quoin-stones, at 3 <i>d.</i> -	0	9	0
6 Windows, and door- <i>stead</i> , 105 feet, at 5 <i>d.</i> - -	3	4	7
Door, and window- <i>stead</i> , in stable, 40, at 5 <i>d.</i> - -	0	16	8
Sundry small articles, - -	0	15	2

19 19 5

Two cart loads of stones do
three yards; the getting costs
2 *d.* *per* load, and the carriage
2 *d.* this is 2 $\frac{1}{2}$ *d.* *per* yard, on
455 yards, - - -

4 15 0

£. 24 14 5

Although this account does not include
all the articles of the building, yet from
hence it is evident, that, in stoney countries,
the expence is very small.

If the roof is thatch, the carpenter's work
is 2 *s.* *per* square, for hewing, sawing, and
joining; the spars only rived poles.

Thatching the roof of a barn 9 square
and 80 feet; and a granery, 5 square and
52 feet, cost 5 *l.* 2 *s.*

If

If the roof is slated, the carpenter's work is then, for hewing, sawing, and joining, 6*s.* a square.

A rood of 49 superficial yards of slating, costs,

		<i>l.</i>	<i>s.</i>	<i>d.</i>
The slates at quarry,	-	1	12	0
Carriage, four miles,	- -	0	7	0
Laying on,	- - -	1	1	0
		3	0	0

1756.

This year, the principal work of carrying on the ring-wall was continued with great spirit. And a sub-division was made to inclose 16 acres for improving. This piece was totally covered with ling, not a spot of green sward, but all black peat earth: Many stones were removed that were not fit for walling, and the whole business of clearing very tough work. A working bailey was fixed in the house, with three horses and a yoke of oxen, to execute the business of carrying on this improvement. At the same time he turned 130 sheep on the farm.

The method pursued was that of paring and burning, which, like the walling, was all done by measure: Paring, burning, and spreading the ashes were well performed for 16*s.* 6*d.* *per* acre. With the ashes of the turfs, four chaldrons *per* acre of lime were spread; but in this article Mr. *Scroope* was fortunate,

fortunate, for the lime-stone, which runs every where under the farm, enabled him to manure at a cheap rate. His lime costs,

The getting, and breaking the				
stones, <i>per</i> chaldron,		£.	0	0 9
Eight bushels of coals burn a				
chaldron of lime; these cost,				
delivered in, - - -		0	2	6
Burning, <i>per</i> chaldron - - -		0	0	7
		0	3	10

The field being inclosed, pared, and burnt, and limed, the next business was giving it one ploughing, which turned in the ashes and lime, and turnip-feed was then harrowed in. The crop proved very good, worth 35*s.* *per* acre.

The success attending the first essay in gaining a good crop of turnips from off such very bad land, was a great encouragement to proceed vigorously with the work.

1757.

This year was employed in the grand business of walling, which being of the most importance, the team was kept to it constantly, which prevented any fresh acquisition of culture. The increase of the first stock of sheep was left on the farm, that a larger number might be gained, in a regular proportion to the improvements.

The

The 16 acres, which last year yielded turnips, were fallowed this year.

1758.

The walling went on this year without delay ;——indeed it was attended so much to, that no fresh piece was broke up. The stock of cattle was however increased : An addition was made of

- 47 Sheep
- 18 *Scotch* heifers
- 2 Calves
- 2 Milch cows.

The 16 acres, already broken up, yielded this year a crop of oats to the amount of five quarters *per* acre; the straw of which was a very fine assistant to keeping these cattle in the winter.

1759.

The grand affair of walling did not stop this year, but a subdivision made, which inclosed a field of 20 acres; this piece was a very stubborn one, it was all black earth, but the walls cleared it of stones : One circumstance in which it was very discouraging, was many parts of it being wet; however, seasonable times being taken, the surface was all pared and burnt at the same price as before, and the wettest parts of it laid dry by a few good drains. It was then limed, five chaldrons *per* acre, and sown with turnips. The crop proved an exceeding good one, worth 40*s.* *per* acre.

The 16 acres, before broke up, were this year in clover, sown with the last year's oats, the crop a very good one, and yielded a fine produce of hay. This year's stock of cattle:

Working beasts and heifers, the same as before.

29 Lambs,	} added.
2 Bulls,	
2 Cows,	

A noble stock of cattle, to be kept on land which so lately maintained nothing! 20 acres of turnips, and 16 of clover-hay, were of excellent service in keeping them.

1760.

It is needless to repeat, that the business of walling has been carried on every year without interruption. A new inclosure of 10 acres was made this year, upon a favourable piece of land, being white earth: It was pared and burnt as before, and sown with turnips; the crop excellent; worth 4*l.* *per* acre.

The 16 acres first broken up, were this year under maslin, having grasses sown with it; it produced four quarters *per* acre.

The seed.

6 Bushels *per* acre of hay-seeds.
 2 *lb.* ditto, of white clover.
 2 *lb.* ditto, of burnet.
 2 *lb.* ditto, of rib-grass.

It was limed for the maſſin, at the rate of four chaldrons *per* acre.

The 20 acres which yielded turnips laſt year, were ſown again with them this year, being limed, four chaldrons *per* acre, and were worth 50 s. *per* acre. The crops therefore of this year were,

20 Acres of turnips.

10 Ditto.

16 of maſſin.

The ſtock of cattle this year,

4 Horſes

2 Draught oxen

60 Sheep

28 Beaſts

2 Cows.

1761.

This year a thirteen-acred piece, of the ſame land as the acquiſition of the laſt, was walled in, and turned up by the plough without paring.

The 16 acres, firſt improved, were in graſs, and promiſed very fair to be an excellent paſture, for they were now covered with a fine herbage, and maintained, on experiment, at the rate of a beaſt to two acres.

The 20 acres next improved yielded this year a crop of oats, four quarters *per* acre.

The 10 acres were alſo ſown with oats : The crop five quarters *per* acre.

The disposition of the fields, therefore, this year, was,

13 Acres fallow.

16 ———grafs.

20 ———oats.

10 ———ditto.

And the stock of cattle as follows.

4 Horses.

2 Draught oxen

194 Sheep

18 *Scotch* beasts

10 Young cattle

2 Milch cows.

Here I cannot avoid making a pause, to reflect on the surprising improvement effected in six years. A farm-house and offices erected——the ring-fence-wall around 900 acres built——those inclosing several subdivisions, formed——16 acres of good pasture-land gained——and 43 in a course of tillage, all yielding very beneficial crops: ——a large stock of cattle maintained——and all this in a tract of land that so lately exhibited none but the most dreary of prospects; and which every farmer in the country would have refused at a farthing an acre! Who most deserves a statue; the man that effects *such works*, or he who conquers a kingdom?

1762.

This year, the cultivated land was increased by the addition of 12 acres, which were

were broken up by the plough without paring. The soil black moor, and of the worst sort ; it was a severe work, but at last effectually performed.

The 16 acres of grafs were much improved since the last year.

The 20 acres were again sown with oats, and well limed ; with the corn, grafs-seeds as before. This crop of oats amounted to four quarters *per* acre.

The 10 acres improved in 1760 were this year cropped with oats. The product four quarters and a half *per* acre.

The thirteen-acred piece this year yielded a very fine crop of turnips, being limed for at the rate of four chaldrons *per* acre : They were worth 3 *l.* 10 *s.* an acre.

The following, therefore, is the general view of this year's crops.

- 12 Acres fallow.
- 16 ——— grafs.
- 20 ——— oats.
- 10 ——— ditto.
- 13 ——— turnips.

The stock of cattle this year.

- 4 Horses
- 2 Oxen
- 200 Sheep
- 25 *Scotch* beafts
- 7 Young cattle
- 2 Cows.

1763.

This was a busy year; for two fields were added to the cultivated lands, both well inclosed with walls: One of 20 acres was part of the worst land of the whole farm; all a rotten black peat earth, over-run with tough ling and many stones; and what was worse, much of it very wet. It was a difficult business to prepare this field for paring and burning; but some well-executed drains were formed, and the whole pared and burnt, and four chaldrons *per* acre of lime spread with the ashes, and then ploughed, and turnip-feed harrowed in. The crop very good, worth 50s. an acre.

The other piece improved this year was 18 acres of the best sort of land: It was walled in, and then pared and burnt, and four chaldrons *per* acre of lime spread, and 14 acres of it sown with turnips, and four planted with the large *Scotch* cabbage: The latter managed in all respects as the crops already registered at *Danby*; they came to 11 *lb.* *per* cabbage, on an average. The turnips a fine crop, worth 3*l.* *per* acre; but much inferior in value to the cabbages.

This year the sixteen acres of grass were much improved: An acre and a half were found sufficient for summer-feeding a cow.

The 20 acres turned up in 1759 were now in grass for the first year: The herbage very

four
men

very fine and regular, and promised to become an excellent pasture.

The ten-acred piece was this year a fallow.

The 13 acres broken up in 1761, were sown with turnips for the second time: The crop worth 45 s. *per* acre.

The 12 acres fallowed last year were under oats: The crop five quarters *per* acre.

The disposition of the crops this year, upon the whole, was as follows.

20 Acres of turnips.

14 — ditto.

13 — ditto.

4 — cabbages.

16 — grafs.

20 — ditto.

10 — fallow.

12 — oats.

109

And the flock of cattle this year,

4 Horses

2 Oxen

200 Sheep

30 *Scotch* cattle

6 Young ditto

2 Cows.

About this time, this very able cultivator found it most advantageous, in the management of his cattle, to buy in *Scotch* heifers

D d 4

at

at two years old, to breed, and then annually to sell off such as are fit for fattening. The flock of sheep was also regulated, and now yielded a profit of 40 or 50 ewes and wethers every year.

1764.

Some more lime-kilns being this year erected for the manuring of the improved lands, which now became somewhat extensive; and the business of the subdividing walls, carried on with spirit, found the team so much employment, that no new piece was improved this year. The state of crops was:

The 16 acres continued in grass, and made a very valuable pasture.

The 20 acres brought into cultivation in the year 1759, were also in grass; and promised soon to equal the goodness of the other field.

The 10 aced-piece was now likewise in grass, the seeds being sown alone in *August* of the preceding year. The crop exceedingly fine.

The 13 acres which yielded turnips last year, were sown with oats this year, and among them parley; product, four quarters *per acre*.

The 12 aced-piece was this year cropped with parley, sown among the oats of the preceding year. Many sheep having of late been rotten in the neighbourhood,

gave Mr. *Scroope* some fear for his own, which induced him to try parsley as a preservative. And there is the greatest reason to suppose the success considerable, as the sheep quite around the farm were universally rotten this year, but those at *Dalton* escaped without attack.

The 20 acres, broke up in 1763, were this year cropped with cabbages; the crop a very noble one; six acres yielded 14 *lb.* the average weight *per* cabbage, and the rest of the field 10 *lb.* They were, in all respects, cultivated in the same manner as the crops at *Danby*.

The 18 aced-piece, this year, yielded oats; the crop five quarters and an half *per* acre. These crops drawn into a general view, will appear as follows;

16 Acres grafs
 20 — ditto
 10 — ditto
 13 — turnips
 12 — parsley
 30 — cabbages
 18 oats.

The stock of cattle,

4 Horses
 2 Oxen
 26 *Scotch* heifers

11 Young

11 Young cattle
200 Sheep
2 Cows.

1765.

This year 18 acres were added to the farm, by plain breaking up with the plough, without paring, &c. It was consequently fallowed. The soil, the best upon the farm, a fine loam, 18 inches deep, that would bear exceeding good carrots. The state of crops this year was,

The 16, 20, and 10 aced pieces, continued in grass, and excellent pastures they were constantly found.

The 13 acres were this year covered with parsley before mentioned :

The 12 acres were also cropped by the same plant, continuing the second year upon the ground.

The 20 acres broken up in 1763, this year yielded oats, four quarters and an half *per* acre.

The 18 acres, brought into cultivation the same year, were cropped, 10 with cabbages, that came to 8 *lb.* average weight; and eight with oats, four quarters *per* acre. —It is needless to remark, that through the whole course of this husbandry, all the fields of cabbages, turnips, and corn with grasses among it, have been regularly limed, four chaldrons *per* acre.

General

General view.

18	Acres of fallow
46	————— grafs
25	————— parſley
28	————— oats
10	————— cabbages.

 127

Stock of cattle,

4	Horfes
2	Oxen
200	Sheep
12	Young cattle
26	<i>Scotch</i> heifers
2	Cows.

1766.

No freſh land has been broke up ſince the year 1765; Mr. *Scroope*, upon conſidering attentively the ſtate of his farm, at the end of that year, found the improved land too extenſive, and too good for the ſmall buildings he had at firſt erected: He had then juſt ten years experience of the nature of theſe moory ſoils, and was convinced that the improvement of them was a very profitable buſineſs. He had 46 acres of excellent paſture land; every one of which would carry ſeven ſheep through the ſummer, or an acre and a half maintain a cow the ſame time. Such graſs is any where worth 15*s.* *per* acre. He had 109 acres in tillage, which

which all yielded very beneficial crops; those of oats were seldom under four quarters *per* acre; his turnips rarely failed, and were always valued at from 40 *s.* to 3*l.* 10*s.* *per* acre; and his cabbages excellent crops, rising from 15 to 34 tons *per* acre. In this state of the farm it was evident, that by means of so much good grass, with more ready to be laid, of fine crops of turnips, better of cabbages, and no inconsiderable quantity of straw; — large stocks of cattle might be kept, and the business of improvement carried on upon a larger scale.

But before such ideas were to be executed, new buildings were absolutely necessary. The team was insufficient for the land, a new one must be fixed; but stabling would first be requisite. The barns would not near contain the crop of corn — others must be raised. Another bailey to work with, and inspect the new team, would be proper; — a house must be built for him. In short, many new buildings were become absolutely requisite, for the further carrying on the improvements.

Mr. *Scroope* justly concluded, that his first business was to raise these, and that the present team might have the more time for assisting the works, to put a cessation to breaking up fresh land until the farming offices were all ready for housing the cattle employed,

employed, and the crops yielded by the new improved land.

Pursuant to this resolution, he began this year to build another (and much better) farm-house,—stables, barns, graineries, &c. &c. all upon a much larger construction than before; and judiciously fixed them in the center of the unimproved lands.—This work employed him during the years 1766, 1767, and part of 1768: It was just finished when I saw it, and preparations making for walling the new inclosures around it.

The state of crops this year, was

The 16, 20, and 10 aced pieces, continued in grafs.

The 13 acres were this year sown with oats, and yielded a fine crop of five quarters *per* acre.

The 12 acres brought into cultivation in the year 1762, were planted with cabbages; the crop 10 *lb.* at an average.

The 20 acres broken up in 1763, were this year fallowed, and consequently limed.

The 18 acres broken up the same year, were in oats, four quarters *per* acre; as were the 18 broken up in 1765.

General view.

46 Acres grafs

49 ——— oats

12 ——— cabbages

20 ——— fallow.

The stock of cattle continued the same.

1767.

1767.

This year the 46 acres before mentioned remained in grafs.

The 13 aced piece was in turnips—the crop worth 3*l.* an acre.

The 12 acres broken up in 1762, were fown with oats, and yielded five quarters *per* acre.

The 20 acres broken up in 1763, were cropped, 11 acres with cabbages; the fuccefs but indifferent; they did not come to above 5 *lb.* *per* cabbage. The other nine were in turnips, worth about 40 *s.* *per* acre.

The 18 acres cultivated the fame year, were in oats;—the crop five quarters. The 18 broke up in 1765, were alfo under oats, and the crop very fine, better than the laft mentioned.

General view.

46	Acres	grafs
22	—	turnips
48	—	oats
11	—	cabbages

Cattle continued the fame.

1768.

The 46 acres continued under grafs.

The 13 acres are under oats.

The 12 aced piece the fame, and grafs-feeds fown with them.

The 20 acres broken up in 1763, are in oats.—The 18 broken up the fame year, are the fame.

The

The 18 acres turned up in 1765, are five planted with cabbage, and 13 with turnips. All this year's crops promise finely.

General view.

46 Acres grafs

63 ——— oats

5 ——— cabbages

13 ——— turnips.

Cattle the same as before.

In 1769, an addition of 24 acres was made in three inclosures.

And in the same year the stock of cattle was,

7 Horses

41 Beasts

289 Sheep.

And next year he proposes to have a field of sain-foine.

Such is the register of Mr. *Scroope's* improvement of moor-land: It is with the utmost satisfaction I present it to the public: those who know the immensity of the tracts of uncultivated moors, that are every where to be met with in the north of *England*, will value such an excellent example, as it nobly deserves. Much do I hope, that it will be attended with the effect which all must wish, that of forcing from the most backward an imitation of his conduct; which must to all prove highly advantageous, and no less beneficial to the kingdom at large.

What

What a noble acquisition will it be to change 900 acres, from being a barren desert, to a finely cultivated farm! This will be effected in a few years; for now, the new house and set of offices being finished, and preparations made for the walling and improving, by opening several quarries both for the walls and burning of lime, the grand work will go on fast: The old team respited from attending the buildings, and the new ones being also free, both will be employed by the walling and tillage alone; and consequently the breaking up the uncultivated land go on much quicker than ever: Probably 40, 50, or 60 acres will be inclosed, pared, burned and limed every year, and this work will be rendered light, if one of the old tillage fields is annually laid down.

If such an able cultivator, who has so many years experience, and so apprehensive a genius, would allow me to *conjecture* a little, I should venture to mention the cultivation of sainfoine to him. His higher grounds being a fine light loam upon a stratum of limestone, there can be no doubt but that vegetable would thrive prodigiously upon it, and yield crops probably five times as beneficial as natural grass. But on the lower grounds, which are all more or less inclinable to wetness, the best husbandry must be to lay down to natural grass, as long as it

continues

continues good; and when it falls off in value (if in a process of years, it should do that at all; but no signs have yet appeared in those laid down already), it should then be pared and burned again, kept in tillage four or five years, and again laid down.

Another vast improvement in the upper lands, where the soil is deep (and in two or three fields it is from 12 to 18 inches), would be the culture of carrots: No soil can be better adapted to them, or yield better products; and I am confident, crops might, with thorough good hoeing, be gained here of 500 bushels *per* acre, which quantity would, in the feeding of any cattle, be worth twenty-five pounds.

Mr. *Scroope's* introduction of cabbages on the moor-land, is a most beneficial trial; I apprehend he took the hint from *M. de Tourbilli's Memoire sur la Defrichements*, in which he relates a surprising improvement of an acre of moory bog, which yielded as many cabbages as sold for 37*l.* 10*s.*: A vast produce! Any person that views *Dalton* moors, would be startled at the idea of raising cabbages on *such land*; nor would they believe that 34 tons *per* acre, over many acres, would ever be produced there, unless the fact was proved to them: But Mr. *Scroope* has realized this assertion. Such crops, or even half the quantity, are noble acquisitions

upon land that was so very lately covered with nothing but ling.

Mr. *Scroope's* experiments on moor-lands prove several points of very great importance,—particularly the following ;

The expence of walling, upon such moors, is 5 s. 6 d. *per* rood, of seven yards long, and five feet high.

That of paring and burning, and spreading the ashes, is 16 s. 6 d. *per* acre.

That of laying on four chaldron *per* acre of lime, is 15 s. 4 d. *per* acre.

With such improvement, these moors yield very beneficial crops ; *viz.*

Turnips, worth from 35 s. to 4 l.

Oats, from four to six quarters.

Cabbages, from 15 to 34 ton.

Maclin, about three quarters.

Grass, that will keep seven sheep *per* acre, through summer, and a cow to an acre and an half.

It will be here proper to calculate the benefit of improving a square mile of moor on these data.

Inclosing in fields, of 40 acres each,

10 miles, at 5 s. 6 d. a rood,	-	£. 687
Gates,	-	8
Buildings,	-	300
Paring and burning,	-	528
Liming, at 15 s. 4 d. <i>per</i> acre	-	491
		£. 2014

Expenſe on a turnip crop, as ſtated
at *Swinton*, - - - £. 520

Ditto, on an oat crop and hay-ſeeds, 2072

Ditto, on hay, - - 384

The general account will then be as
under,

Fiſt improvement, - - £. 2014

Expences of turnip year - - 520

£. 2534

Expences in the oat year, £. 2072

Deduct the product of the
turnips, at 2*l.* 17*s.* - 1840

232

£. 2766

Product of oats, - £. 2304

Deduct expences on hay - 384

1920

Product of hay, - - 800

2720

46

Interest of 2766*l.* for 3 years, - 330

Neat expence on the whole undertak-
ing, - - - 376

Rent of the farm at 20 <i>s.</i> <i>per</i> acre,	-	640
Interest of 376 <i>l.</i>	-	15

Clear profit on the improvement,	<u>£. 625</u>
----------------------------------	---------------

Which is 170 *l.* *per cent.*

Had cabbages been substituted, the profit would have been much greater. As to the rent of 20*s.* let any practical man judge, if grass that will keep seven sheep *per* acre, or two cows to three acres, be not worth that rent in any part of the kingdom. But I know that it will be thought most surprising profit, to gain 170 *l.* *per cent.* Those who deny the possibility, must disprove my data: If they cannot do that, they must start their objections to my conclusions; let them calculate the amount of their objections; give them full weight; and then anew calculate the particulars—they will find the profit immense.

To add any further reflections upon this most able and spirited cultivator's experiments, at *Danby* and *Dalton*, is unnecessary. They form a series of most valuable facts, which enlighten every part of husbandry they concern—and are pregnant with instruction. I conclude with wishing, in the sincerest manner, that this excellent husbandman may continue the register of his trials:—he will thereby add new lights to the cultivator, and enlarge the most useful part of natural philosophy——

EXPERIMENTAL AGRICULTURE.

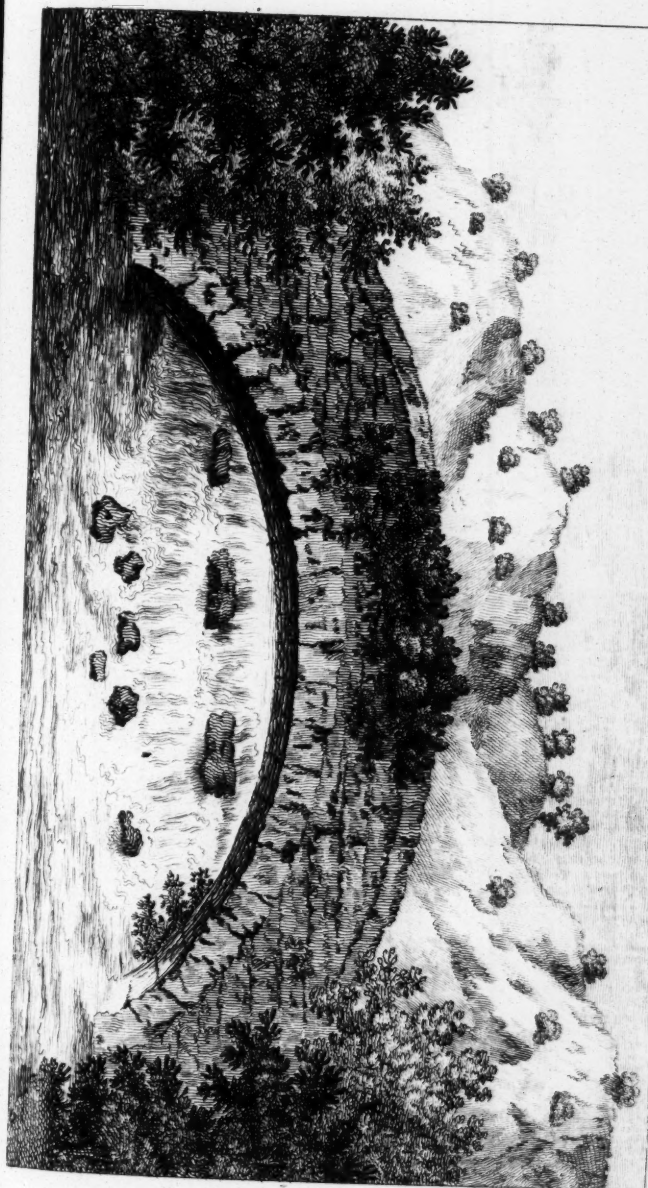
L E T T E R XIV.

FROM *Danby*, moving westward by the banks of the *Eure*, I crossed it at the neighbouring bridge; the river to the eastward takes a most beautifully picturesque divided course, among little woody islands and crags of rocks, over which it, in many places, falls with great rapidity, and makes a fine murmuring noise: The spot is truly elegant.—Passing through the town of *Middleham*, I crossed *Middleham* moor, from the edge of which is a very fine prospect down upon the valley, scattered over with villages, houses, &c. the whole cut into inclosures of a beautiful verdure, with the river winding through them. The lofty top of Mount *Penbill* tempted me to turn aside, for the pleasure of viewing the country from so great a height; and although out of my way, and the road to the summit craggy and difficult, yet the extent of vales, mountains, and variety of country, made amends for those circumstances; the valley is beneath in another region, and the windings of the river seen in some parts distinctly: To the south is a vast range of black mountains, which have a horrible
E e 3 aspect;

aspect; to the east, the extent of country is great, and appears well cultivated; to the west, it partakes of both the sublime and beautiful: But, upon the whole, the general prospect was more bounded, and less striking, than the height of the hill led me to expect *.

As to the husbandry about *Ayfgarth*, it consists chiefly in managing grass lands: The soil is principally a good loam, and gravel, and lets, the inclosed, at about 20 s. an acre the average. Farms rise, from so

* *Ayfgarth-force* was the object which led me to the west of *Danby*: From *Penbill*, I took the road thither, through a country various, but in general cultivated; the river *Eure*, at *Ayfgarth*, falls in several places over rocks in a very romantic manner: The first fall is of several steps, near the bridge, and though of no great steepness, yet is beautifully picturesque: The theatre of the scene is a very fine hollow, inclosed by hanging hills, scattered with pendant trees; the river foams down several steps in its rocky bed, the view of which, through the arch of the bridge, is most elegantly pleasing. I attempted a sketch of it; plate V. which is however far enough from representing the full beauty of the original. Under the arch you catch, in a most beautiful perspective, first some straggling shrubby underwood, which hangs just under the brickwork, then the sheet of water falling some feet among the rocks, particularly intercepted by
three





low as 5*l.* to 100*l.* a year, but in general about 20*l.* or 30*l.* The courses of the little arable they have, are

1. Fallow

2 Oats

3. Maslin.

And another is,

1. Potatoes

2. Oats

3. Maslin.

Very good grafs will let at 25*s.* or 30*s.* an acre: They apply it both to dairying

three large loose pieces; next is seen another level sheet nearer to you than the former, and then a second dashing among straggling rocks, which throw up a most picturesque foam: The top of the bridge is thickly over-grown with ivy; and the whole view is bounded by fine hanging hills, scattered with trees.

Lower down the river are three falls more, which are not a little striking from the romantic spot in which they are situated. The river is walled in with rocks of a considerable height, their tops fringed with shrubby wood; the lowest of the falls is the principal, for the water rushes between the vast rocks, a double fall of 12 or 15 feet in the whole; the object is a noble one, though far from being equal to that of *Tees* before described.

Upon the whole, these falls are great curiosities, and sufficient, I should apprehend, to entertain the least scrutinizing traveller.

and fattening; one acre will feed a cow through the summer, or keep four sheep.

They all manure their grasses.

The breed of their cattle is between the long and short horns.

Their hogs, they fat up so high as 30 stone: Three or four years ago, one was killed of 36 stone.

The product *per* cow, they reckon at 4*l.* 12*s.* 6*d.* at an average. The medium quantity of milk *per* day five gallons, and 7*lb.* of butter *per* week, in bad pasture; and to ten cows, two or three hogs kept. The winter food hay alone, of which two acres *per* cow. They let their calves suck a very short time, and some not at all. They reckon a dairy-maid can take care of five or six cows.—The joist in summer is from 30*s.* to 35*s.*; in winter, they are always kept in the house.

In fattening beasts they reckon one of 50 stone will, for the summer's feed, yield 4*l.* 10*s.* profit.

. Their flocks of sheep rise from 30 to 400; and the profit, *per* sheep, they calculate by reckoning the lamb at 5*s.* and the wool 3*s.* 4*d.* They keep them the whole year round on the commons. The weight of wool *per* sheep about 4*lb.* on an average, and the price 9*d.* or 10*d.* *per* *lb.*

In the hiring their farms, they reckon 200*l.* necessary for stocking one of 50*l.* a year.

Poor

Poor rates are about 6 *d.* in the pound. The poor women and children's employment is knitting and spinning, by which the women earn about 6 *d.* a day, and girls 2 *d.* or 3 *d.* Most drink tea.

The general œconomy of their farms will be best seen by the following sketches.

100 Acres in all	16 Beasts
4 Arable	20 Young cattle
96 Grass	300 Sheep
£.80 Rent	2 Men
6 Horses	2 Maids
6 Cows	2 Boys.

Another :

75 Acres in all	13 Young cattle
5 Arable	10 Fattening beasts
70 Grass	200 Sheep
£.76 Rent	1 Man
3 Horses	1 Maid.
5 Cows	

Another :

160 Acres in all	20 Young cattle
55 Arable	400 Sheep
105 Grass	2 Men
£.135 Rent	1 Boy
8 Horses	2 Maids
15 Cows	1 Labourer.
6 Fattening beasts	

Another :

35 Acres, all grass	6 Young cattle
£. 42 Rent	100 Sheep
3 Cows	1 Boy
2 Horses	1 Maid.

LABOUR.

In harvest, 1 s. and 1 s. 6 d. and board.

In hay-time, ditto.

In winter, 6 d. and board.

Mowing grass, *per* acre, 1 s. 8 d.

First man's wages, 10 l. 10 s.

Second ditto, 7 l.

A boy of 10 or 12 years, his board and cloathing.

A dairy-maid, 3 l. 10 s.

Other maids, 3 l.

Women *per* day, in harvest, 6 d. and board.

In hay-time, ditto.

In winter, 4 d. and board.

IMPLEMENTS, &c.

A new cart, 3 l.

A scythe, 2 s. 6 d.

A spade, 2 s. 6 d.

Shoeing, 1 s. 4 d.

PROVISIONS, &c.

Bread - - - 1 d.

Cheese, - - - 2

Butter, - - - 5½ ——— 16 ounces.

Beef, - - - 3½

Mutton,

Mutton,	-	3d.
Milk,	- -	$\frac{1}{2}$ d. a pint.
Potatoes,	-	4 a peck.
Candles,	-	6 $\frac{1}{2}$ d.
Soap,	- -	7
Labourer's house rent,		15s.
———firing,		30s.
———tools,		5s.

From *Asgarth* returning by *Crakehill*, I took the road once more to *Richmond*; and from thence to *Darlington*, in the county of *Durham*. At that town is a considerable manufacture of *Huckerback* cloths, in which the workmen earn from 10d. to 2s. 6d. a day, and women and children proportionably. One master manufacturer employs above 50 looms, and asserts, that he could easily set many more at work, and employ numerous women and children, if the idle part of the poor of the town could be persuaded to turn industrious; but numbers of hands, capable of working, remain in total indolence; and that in general, there need never be an unemployed person in *Darlington*. They make their cloths up to 14s. a yard.

To-morrow morning, I set out for *Raby Castle*, shall therefore, in the mean time, conclude myself, &c. &c.

Darlington.

L E T T E R X V .

THE Earl of *Darlington's* husbandry at *Raby Castle* *, calls for the most accurate attention.

His experiments and improvements are of an important kind, very applicable to common management, and consequently of certain utility ;——but first, as a proof that

* *Raby Castle* is situated in the midst of a most extensive territory, which gives his Lordship a very fine command around him. The castle is a noble massy building of its kind, uninjured by any modern strokes inconsistent with the general taste of the edifice ; but, simply magnificent, it strikes by its magnitude, and that idea of strength and command one naturally annexes to the view of vast walls, lofty towers, battlements, and the surrounding out-works of an old baron's residence. The building itself (besides the courts) covers an acre of land ; the size may from thence be concluded. The south front is very beautiful, the center of it is from a design of *Inigo Jones* ; nothing in the Gothic taste can be more elegant than the stile and proportion of the windows.

The

his Lordship does not give intelligence from theory only, I shall insert the particulars of his farm.

1080	Acres in all
430	Of ditto arable
288	Meadow, that is mowing ground
357	Pasture or feeding
£. 800	Rent
8	Ploughs
20	Horses
18	Draught oxen
6	Servants
21	Labourers
6	Boys.

The rooms are very numerous, and more modern in their proportion and distribution than one would easily conceive to be possible within the walls of so antient a building; but by means of numerous passages and closets (many of both have been scooped out of the walls) and back-stairs, the apartments are extremely convenient, well connected, and at the same time perfectly distinct: His Lordship has projected several improvements, which will add yet further to the spaciousness and convenience of the apartments in general.

The bed-chambers and dressing-rooms are of a good size and proportion, and several of the lower apartments large and elegantly fitted up. One of the drawing-rooms is 30 by 20; and the adjoining dining-room, 51 by 21; the windows
of

He generally has about

75 Acres of wheat
 45 ——— of barley
 165 ——— oats
 50 ——— turnips
 6 ——— cabbages
 90 ——— fallow.

His Lordship's courses are,

1. Fallow
2. Wheat
3. Dung well for fallow again
4. Barley.

of both of plate-glass, and in the smallest and lightest of brass frames. His lordship purposes enlarging the latter of these rooms. Near it, there is a rendezvous apartment, 90 feet long, 36 broad, and 36 high, a proportion that pleases the eye, at the very first entrance; it is however to be improved by an addition of 30 feet in length, by building, at one end of it, a circular tower, in the same stile as the rest of the castle; by which means the south front will be greatly improved, and the room will receive not only an additional space, but the light at bottom of a (circular bow) window, which it wants at present.

The park and ornamented grounds around the castle are disposed with very great taste. The lawns, woods, plantations, objects, &c. are remarkably beautiful.—Entering the lawn from the plantations near the house, the whole sweep has a very fine effect. The dog-kennel, a gothic ornamented

With which the seeds are sown. Another is,

1. Fallow
2. Wheat
3. Pease
4. Oats.

For wheat he ploughs five times, sows two bushels, and gains at an average from 28 to 38 bushels. For barley after turnips, he ploughs but once, after fallow five times, sows seven pecks, and gains from 40 to 50 bushels; an extraordinary increase. For oats,

ornamented building, is seen on one side rising out of a wood, and beautifying the scene much: Upon the hill to the right, the gothic farm-house, a simple but pleasing design, in a very agreeable situation; in front along the valley, several clumps of trees are scattered, and between them his Lordship's farm-house on a rising hill; a building which greatly ornaments the grounds. This part of the lawn is finely inclosed on three sides with thriving plantations. This leads into the extended part of the lawn, which is, for its extent, the most beautiful I have any where seen: The inequality of the ground is remarkably favourable to its beauty; it consists of fine sweeps of grass, stretching away to the right and left, over hills most elegantly spread with plantations on one side, and presenting to the eye a waving uninterrupted surface through a valley, on the other. It loses itself in such a manner among the woods,

only one ploughing, sows four bushels and an half, and reaps in return, about 45. For turnips, his Lordship stirs five times; always hoes them twice, but finds it somewhat difficult to procure men that can hoe them, in a perfectly neat and accurate manner; the medium value of his crops, 5*l*. Uses them chiefly for stall-feeding oxen.

His Lordship has been pleased to inform me by letter, that his turnips of 1769, turned out very profitably. He weighed one acre, drilled and hoed; and their weight

woods, as to give room for the imagination to play, and picture an extent superior to the reality.—In front, upon a rising hill, is situated the farm-yard, with a most elegant gothic screen to it.

From this hill, you look back on a very noble scene. To the left, the whole is bounded by a range of planted hanging hills, which extend to the woods in front, surrounding the castle to the distant prospect, in a most picturesque manner: The hollow scoops of lawn are peculiarly beautiful: To the right it has a sweep through the valley, with a prodigiously extensive prospect over it to *Rosebury-topping*, &c. &c. &c. Nothing can be more beautiful than this whole view, which is composed of the most elegant disposition of ground imaginable; the hanging hills spread with wood; the hollow scoops of grass, spacious lawns, and distant prospect

amounted to 55 tons and an half; which is greatly superior to any thing that could be conceived in *Durham*. Eight turnips weighed 20 stone four *lb.*; not the largest in the field. This is $35\frac{1}{2}$ *lb.* each: a size for so many to come to, as I believe has never been exceeded, if equalled. In order to be satisfied whether the broad-cast or the drilled was preferable, his Lordship ordered an acre of the former unhoed to be weighed, and the amount was 42 tons; and this comparison has convinced him that the drill

upon the whole please the eye, and fill the imagination.

Winding up to the right, and moving along the terras, which is a natural one, but leads through an extensive plantation, the views it commands are very fine. You look down upon the farm, and the hill upon which it stands, which waves through the valley in a most pleasing manner; throwing your eye more in front, you catch a lake breaking upon the view in irregular sheets of water, just over the tops of the lower woods; the effect most truly picturesque. Upon the right, the whole valley is commanded, and the market town of *Staindrop* well situated among inclosures and straggling trees.

Advancing, the prospect varies, a fine sweep of cultivated hills is seen upon the left, and the gothic farm-house, ornamenting all the surrounding grounds: Descending into the vale, you

culture is the most profitable, being much easier hoed, and at a less expence. Hoeing, his Lordship observes, it is very clear, is necessary for various reasons, as it not only increases the size of the turnips, but makes the land perfectly clean.

The broad-cast unhoed turnips amounting to 42 tons, is carrying that culture to its utmost perfection: But hoeing is so necessary an operation, that it is easily to be conceived this crop must have been on rich land, pared and burnt.

Tares, Lord *Darlington* tried for feeding sheep with, in the spring: He sowed them in *September*, and got them ready for the

catch the town and church of *Staindrop*, most picturesquely, among the trees. Further down, from among the sloping woods, through which the riding leads, the castle is seen rising finely, from a fore ground of wood, in a stile truly magnificent.

Crossing this part of the lawn to the lower terras, you meet with grounds before unseen, which are excellently disposed; the plantations judiciously sketched, and the views pleasing.

The whole range of ground is seen to very great advantage, by riding along the new southern plantation: You there command the whole, from the castle on one side to the hills beyond the farm-house on the other; and the sweep of plantations here appears very noble.—Upon the whole,

sheep by *May-day*; 18 acres of them kept 120 sheep six weeks from that time: This improvement is a very important one, for the great article of procuring sheep feed late in the spring, is what has more than once puzzled many very attentive cultivators: It is to be apprehended, that no one food can be made to answer from the middle of *March* to the middle of *May*, which is the pinching season; but, in all probability, tares may answer well for the latter part of that season.

Buckwheat his Lordship once tried for his horses, but did not find it to answer.

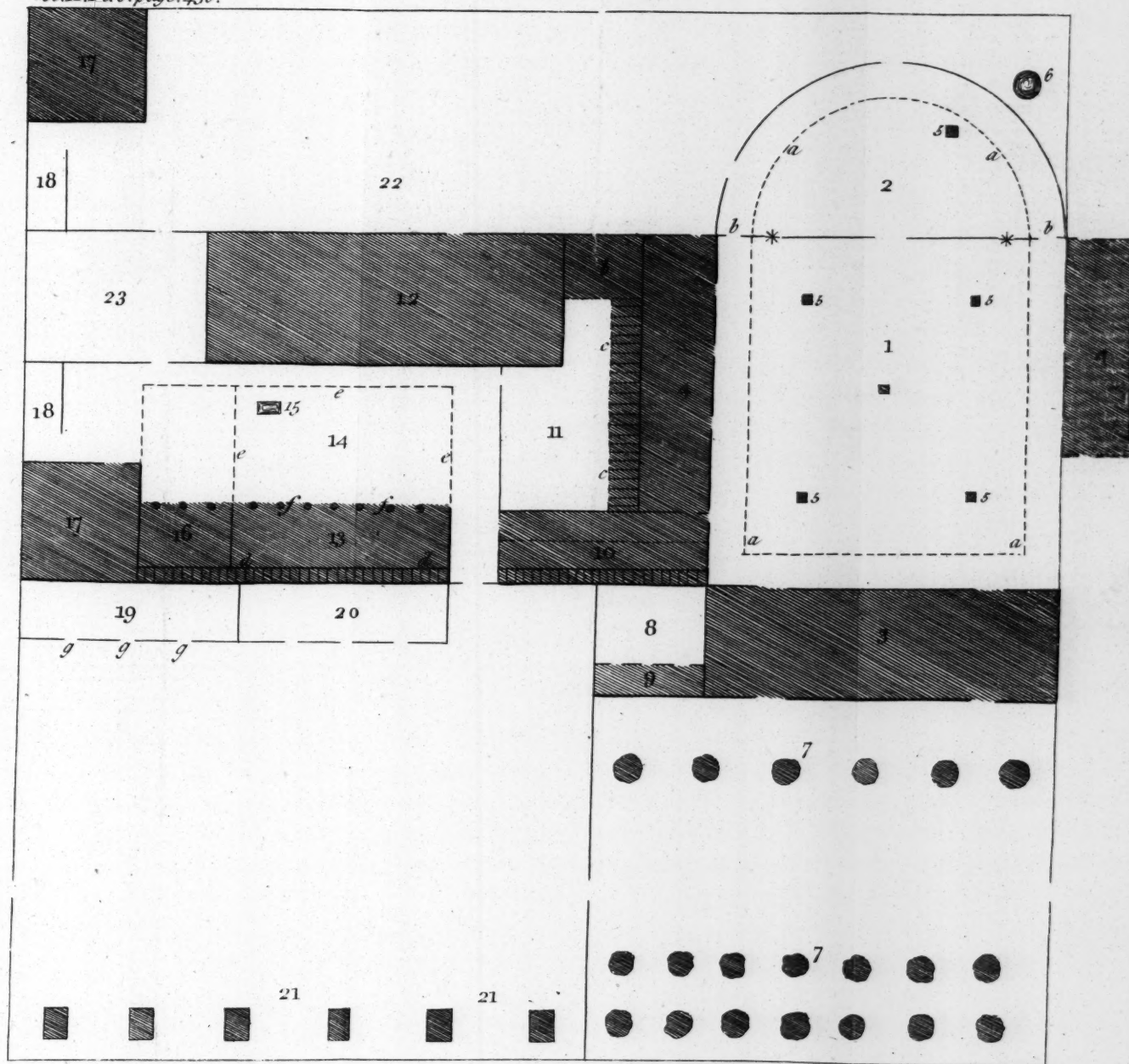
His management respecting manure, is much more masterly than that of his nor-

whole, I have no where seen plantations disposed with more taste—sketched with more judgment for setting off the natural inequalities of the ground; and managed more artfully for presenting, on small spaces of land, a large extent of surface to the eye:—Nor can any thing of the kind be more beautiful than the lawn, which spreads over the hills, and among the woods, so as to appear in different sweeps of green, indenting in some places the woods and breaking through them in others. Few objects in the stile of ornament, can be more agreeable in itself, or more striking from its situation, than the farm-house, which is seen from most parts of the ground, and always to advantage.

thern neighbours, and principally by means of an excellently contrived farm-yard, in which he fodders all his cattle in winter; making thereby a vast quantity of dung. The plan upon which this yard, and all the adjoining conveniences are designed, is so very judicious, and so well contrived to answer every purpose it is designed for, that I cannot deny myself the pleasure of laying a plan of it before the public. See plate VI.

1. The principal yard, surrounded by a foot-way parted off by a rope, a. a. with steps b. b. over the wall into the other yard.
2. Another yard, with a way roped off as before, a. a. two cisterns ** communicate through the wall with each yard.
3. The barn 90 feet long, with two thrashing floors.
4. 4. Two ox-houses for stall-feeding; each 14 oxen: The house 14 feet wide, each stall seven feet, and the length 50.
5. 5. 5. 5. 5. Small grated kennels above the lower parts of the yards, for the superabundant urine to run off into a reservoir, marked
6. In which straw is thrown to soak, and emptied often, four feet deep, and 10 diameter.

7. 7. The





7. 7. The corn stack yard.
8. The hog-yard, with doors into apartments, marked 9.—25 feet square.
9. The lower part of this space is the hog-flies; above a roosting place for poultry.
10. The working ox-house for 14.—It is 50 feet long.
11. A sheep-yard, 50 feet long, and 21 wide in one part, and 15 in the other.
b. is a covered shed for them to run under in bad weather, and c. c. low racks for hay, shedded from the weather.
12. The house, 90 feet long.
13. The stable——and
14. The stable - yard.—In these the horses run loose, their rack and manger at d. d. and a cistern of water at 15. There is a foot-way around the yard, parted from it by the rope, e. e. e. The sheds extend as far as f. f.
16. A shed to keep carts, ploughs, harrows, rollers and other implements; under there is a rack and manger in it, and a yard roped off, that, upon an extraordinary occasion, it may be applied to the use of a stable. These two yards, &c. extend 90 feet.
17. 17. Two small buildings, thirty feet square, used as graineries.

18. 18. Spaces for chicken-yards, or any other use wanted for.
19. A coal pen open at top, with small holes, g. g. g. for drawing out the coals with a hoe.
20. A space for ashes, built in the same manner as that for coals.
21. 21. Hay-stack-yard.
22. A small grass-yard walled in, for driving sheep into, to part them, or draw off the lambs; likewise for ornament before the windows of the house.
23. The entrance-yard.

The least attentive observer will doubtless remark, that convenience and real utility were much consulted in building these offices. The barn is situated with the corn stacks on one side, from whence it receives, and the yards on the other to which it delivers; likewise adjoining, the fatting stalls, and draught ox-house for littering them, and but a little way from the stables, and hog-yard: All perfectly well contrived, as each of these places is in a constant want of straw.

The horses and cattle are well supplied with water, by means of reservoirs.

No urine (the richest of all manures) is lost either from the cattle under cover or in the yards; when it rises under the fodder

in

in the yard to a certain height, it is all conveyed to the reservoir; as are the fudds from the wash-house.

The hay-stacks are well situated, for supplying the horses and draught oxen.

The cow-house is in another place.

The sheep-yard is upon an excellent plan; its use is in severe weather and snow, their hay is kept dry in the racks, and the shed for them to retire under, excellent; At the same time, much valuable manure is made.

The scheme of the horses having an open yard and shed, to move in, with water constantly in it, is an admirable contrivance; they are never tied up, but have full liberty, by which means his Lordship's horses have never been troubled with any disorders from his first adopting this plan. Their shed and yard are all well littered, and much more manure made than in the common method.

Upon the whole, I cannot but admire the ingenuity of the contrivance, and the forecast with which his lordship (who planned the whole himself) has so well adapted each part to its respective use, and so well connected those that mutually depend on each other. The front, which is a screen on one side of the whole, has too much merit to be omitted; I insert an elevation of it to shew how much beauty and utility may

be united in these kind of edifices. See plate VII.

To shew the vast use of such farm-yards, it is only necessary to add, that last year, the cattle his Lordship wintered in this were the following.

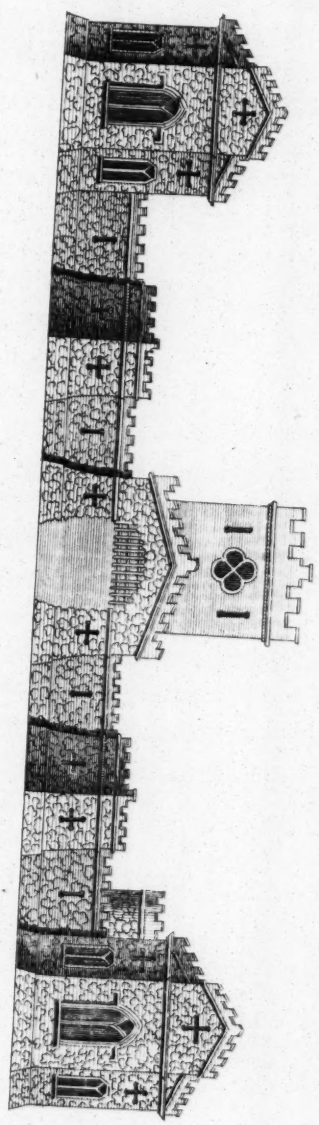
20 Horses
 20 Draught oxen
 18 Fattening ditto
 52 *Scotch* beasts, of 35 stone each,
 And 2 Milch cows.

112

Which number of cattle made in the winter 4000 loads of dung, 26 bushels each; which is better than $35\frac{1}{2}$ *per* head. The whole was carted into heaps, to complete the rotting; but as particular experiments have not been made of the waste, it is difficult to say what proportion it may be in, but I should apprehend the $35\frac{1}{2}$ loads would make 25 in such order as commonly carried on to arable land; or, in other words, a quantity sufficient for one acre and an half: And it certainly must be allowed, that the manuring that breadth of land from every head of cattle wintered, is an object of the utmost importance, and never, by any means, equalled in the common northern management.

But

fol II P7 page 440.





But it should be here remarked in general, that scarce any part of this system can be carried into practice, when the hay, according to the execrable management of many parts of *England*, particularly the north, is stacked about the farm, where it grew; for so large a stock of cattle cannot be kept together all winter without plenty of hay on the spot. His Lordship stacks none in the fields, but all in yards adjoining the buildings, where it is eat. The benefit which would result from this practice becoming general is great, for if the feeding cattle with hay in the fields is attentively observed, it will always be found that they destroy near as much as they eat—that the land is poached and damaged—that the hay so destroyed turns not to any manure, being in no state of putrefaction for dunging grass land—and as to the dung of the cattle it is of trifling consequence, if of any; for that manure which is laid on so thin as not to cause a fermentation, is nearly useless. Keep 2000 sheep upon 2000 acres of land, and take notice of the trifling use they are of in manuring it: I much question whether it will ever be perceptible; but fold them on a part at a time, and the vast benefit will be at once apparent. So it is with feeding cattle upon hay in the field; the good is a trifle, but the benefit of giving them

them the same quantity in a farm-yard confined, will occasion the production of many loads of excellent manure, which, laid on the land in *proper quantities*, will be of decisive utility.

A very worthy friend of mine, who manages his pastures in a neat and masterly manner on a scale not large, will here remark, that with proper care of scattering the dung, and raking up the offal hay, the common practice would prove beneficial; but to this I answer in the first place, that the care and attention requisite for this method are too great for the common farmer; but the method I propose is now the practice of many counties in the south of *England*. Before we persuade farmers to keep their fields like lawns, we must make them give up their slovenliness. *Secondly*, the dung so scattered (though a very good method) is yet left so thin over the surface, as still to be liable to the former objection of doing no good, or at least very trifling. *Thirdly*, the waste of hay is the same, only it is carried to the dunghill in one case, and left to do mischief in the other.

Nothing is so difficult as to wean farmers from their prejudices: I have conversed with many very sensible and intelligent husbandmen in the north of *England*, but could not bring one of them to agree with me in the expediency

expediency of stacking their hay at home : I should however observe that I have seen a vast number of farms in this part of the kingdom, that have nothing deserving the name of a farm-yard : In this case much of the blame lies on the landlord ; for we cannot expect (where it is not the common custom) that farmers will take the pains of making one at all events, as many in the south do, by building high stubble stacks around their barns, for warmth, and feed their cattle no where but within them. To introduce the custom, it is absolutely necessary for gentlemen to build their tenants such conveniences as are necessary for the enabling them to keep their cattle confined in the winter. A farm, one would suppose, must have a stable——perhaps an ox-house, a cow-house, a hog-stye or two, and, very likely, more than one barn : All that is necessary is the raising such (or whatever the buildings may be) around one spot of ground for a farm-yard, by which means an inclosure would be made ; and that might tempt the farmer to use it. The custom however should be introduced, let the means be what they may.

His Lordship uses a considerable quantity of lime as manure ; he lays two chaldrons *per* acre on land long in tillage, but less on new land ; for turnips three chaldrons :——
for

for wet spewy grass, he finds lime and ashes a very great improvement.

Grey pease his Lordship sowed, as an experiment, the end of *March*, and ploughed them in just before flowering; they proved an excellent dressing for wheat.

Paring and burning he uses for wet land; but breaks up that which is dry by ploughing.

His grass-land is managed with great judgment and attention, both in draining and manuring: Last year 347 acres kept the following cattle, from *May* 17th to the end of *October*.

- N^o 1.— 23 fat oxen.
- 2.— 18 draught oxen.
- 3.— 37 *Scotch* beasts.
- 4.— 14 Cows.
- 5.— 6 Heifers.
- 6.— 6 Yearlings.
- 7.— 75 Fat sheep.
- 8.— 108 Ewes.
- 9.— 135 Shearings.
- 10.— 170 Lambs.
- 11.— 29 *Scotch* sheep.
- 12.— 20 horses.
- 13.— 7 Fillies.

And according to the prices of the country (as under), this number of cattle amounts in price as follows. The whole time is 24 weeks.

N^o 1.

			<i>l.</i>	<i>s.</i>	<i>d.</i>
N ^o 1.—	23, at 3 <i>s.</i>	- -	82	16	0
2.—	18, at 2 <i>s.</i>	- -	43	4	0
3.—	37, at 1 <i>s.</i> 6 <i>d.</i>	- -	61	0	0
4.—	14, at 3 <i>s.</i>	- -	50	8	0
5.—	6, at 3 <i>s.</i>	- -	21	12	0
6.—	6, at 8 <i>d.</i>	- -	4	16	0
7.—	75, at 9 <i>s.</i>	- -	62	10	0
8.—	108, at 4 <i>d.</i>	- -	43	4	0
9.—	135, at 4 <i>d.</i>	- -	54	0	0
10.—	170, at 3 <i>d.</i>	- -	51	0	0
11.—	29, at 3 <i>d.</i>	- -	8	14	0
12.—	20, at 3 <i>s.</i>	- -	72	0	0
13.—	7, at 3 <i>s.</i>	- -	25	4	0

580 8 0

The rent of the 347 acres, at
16 *s.* *per* acre - - 277 10 0

Deducted from the amount of
feeding cattle, there remains
profit, - - - £. 302 18 0

His Lordship's cows are of the polled breed, that is without horns; his inducement for having them was the safety of his young plantations, but they are found on experience to be excellent in giving milk: One with another, and upon the average of feed, they give eight gallons each *per* day. They are taken into the yard the beginning
of

of *November*, and fed with cabbages and some hay, about half a stone *per* day.

Sheep, his Lordship finds very profitable; that his breed is good may be seen from the profit. In 1767, he had two lambs *per* ewe round, at 15*s.* a lamb; and the ewe's wool sold at 6*s.* (upon a medium it is 12*lb.* *per* sheep). This is 1*l.* 16*s.* *per* head profit, or 36*l.* a score. But on an average of years, they have only a lamb and an half each, which is 1*l.* 8*s.* 6*d.* a head, or 28*l.* 10*s.* a score profit. In bad weather in winter, they are kept on hay.

In Lord *Darlington's* manner of farming, five horses and four oxen are necessary for the culture of 100 acres of arable land: At first ploughing he uses four oxen and one horse in a plough, but afterwards three horses, and when in tith only two. Both three or two without a driver.—Upon the most attentive observation, he prefers oxen greatly to horses upon strong land.

He lays it down most justly as a rule, to break up all his stubbles, whether for a crop or a fallow, directly after harvest; and ploughs them eight or nine inches deep.

I mentioned his Lordship's draining his grafs-land: He has executed a vast quantity of this work, and in an exceeding good way. When he began his farming,
he

he found his grounds divided into a multiplicity of small closes by stone walls; he threw them all down, and with the materials drained the land, which was before much damaged by superfluous water. He cuts main ones three feet deep, and three feet and an half wide at top, and two at bottom; at each side at bottom a stone is laid and covered by another, and then filled up with smaller stones, in this manner. Plate IV. Fig. 4.

The expence, digging and filling, is 1s. 4d. a rood, besides leading the stones. The branches he cuts two feet deep, two feet wide at top, and one at bottom, and fills them in the same manner; the cost 11d. *per* rood, besides leading. The general rule is to make them from four to seven yards asunder. The improvement is prodigious, the fields which before were poisoned with water, so as to prevent any good crops, and rendered so wet and boggy as scarcely to bear a sheep without damage, will now admit the tread of a great ox in winter without poaching:—Draining is undoubtedly the first work to be undertaken in the improvement of moist or wet soils; and those who think to effect that work by manuring alone, or cutting a few open drains, will certainly find themselves mistaken, for twenty shillings laid out in
manuring

manuring drained land, will go as far as half as many pounds before the land is drained, nor did I ever remark open drains doing the business effectually.

His Lordship's method of laying his land down with grass-seeds must not be omitted; he ploughs the land very fine, lays it perfectly level; and sows,

17 *lb.* of white *Dutch* clover.

14 bushels of clean hay seeds.

1 $\frac{1}{2}$ *lb.* of rib-grass.

1 $\frac{1}{2}$ *lb.* of trefoile to each acre; by which means his land is soon covered with a thick and excellent herbage.

Cabbages his Lordship has tried as food for cattle three years: His first experiment on them was in the year 1766, when he had eight acres of the large *Scotch* sort: The soil is a rich loam grass-land, pared and burnt, and ploughed four times. They were planted the end of *June* in rows, three feet asunder, and two feet from plant to plant in the rows. They were horse-hoed twice, and hand-hoed in the rows once. When in perfection they amounted to 14 *lb.* each upon an average: Were all given to milch cows; no butter superior, nor kept better; but the precaution of breaking off the loose leaves was taken, and only the found heart given to the cows. Other cattle eat the leaves.

In

In 1767, his Lordship had 10 acres in the same field. The land was winter-fallowed and ploughed three times. They were planted the end of *May* as before, and managed in all respects the same; the average weight, *per* cabbage, was also 14 *lb.* They were all given to cows, and the former experience confirmed that the butter from them is excellent, and has no taste but what is perfectly agreeable. Lady *Darlington* assured me, that she had attended particularly to the effect of the cabbages on the butter, expecting to find it taste, but was agreeably surprized at the fine flavour of it, so much superior to that commonly made in winter.

This year, 1768, his lordship has five acres, upon a rich loam, pared and burnt, and ploughed after it only once: They were planted, the end of *June*, by trench-ploughing furrows at three feet distance, laying the plants into them, and then covering them by a common ploughing: They were horse and hand-hoed the same as before; but the medium weight not above 10 *lb.* which his lordship attributes to their having only one ploughing; for want of more they had not pulverized earth enough to strike root into. Several of them weighed from 20 to 25 *lb.* I should, however, observe that they are not near their full growth.

His lordship, upon the whole, has made several important improvements upon the agriculture of his neighbourhood; and carried his own methods into execution with a spirit seldom found in the best cultivated countries: His farm-yard is an excellent contrivance;—his hollow draining is exceedingly well performed;—his cabbage culture good; and, in a word, the whole system of his husbandry judicious, neat, and spirited. The county of *Durham* owes no slight obligation to this first of her farmers for setting so noble an example. That it is valuable, will appear from viewing the common husbandry of the neighbourhood.

The soil is much the same as his lordship's; that is, either a gravel or a rich loam: The rent about 16*s.* an acre. Farms are about from 80*l.* to 100*l.* The courses are,

1. Fallow—2. Wheat.—3. Oats.

And, 1. Turnips—2. Barley—3. Oats.

For wheat they plough four times, sow two bushels, in *September*, and gain on an average about 25. For barley, they plough but once, sow two bushels and an half, in *April*, and gain at a medium about 35 bushels. For oats, they plough but once, sow four bushels about *March*, and get, at a medium, about 40 bushels. They sow a few pease, two bushels and an half in *March*,

March, the crop about 30. Some rye is sown, generally on paring and burning, plough but once : but otherwise four times : They sow two bushels and a half, and get, on an average, after either preparation, 40 bushels *per* acre.

For turnips they pare and burn, and plough once, but in fallowing, stir four times; they never hoe them. The mean value, *per* acre, about 3*l.* 10*s.* and use them for fattening both oxen and sheep; they draw them for cows and calves, and throw them on grass lands.

They know nothing of clover.

They are not in general allowed to plant potatoes.

Their management of their manure is very faulty, for their hay is all stacked about the fields, and consequently they have little notion of raising much in their farm-yard.

The paring and burning is done at the
expence of,

The Paring,	-	-	£. 0	11	6
Burning,	-	-	0	5	0
Spreading,	-		0	1	0
			£. 0	17	6

No folding of sheep.

Good grass land will let for 30s. an acre; they apply it to various uses, and much hay

hay is made, and sold off the farms; but Lord *Darlington* does not allow it upon his estate. They reckon an acre and an half necessary to summer a cow; and an acre will keep five wethers, or four ewes and lambs.

Their breed of cattle is the short-horned kind. Their swine they fat up to about 24 stone.

As to the profit of cows, they calculate on an average that cows pay in butter, cheese, and calf, about 5 *l.* a head; they give in general five gallons of milk a day. To ten, they do not keep above three or four swine. The winter food of the dry ones straw, and of the others hay; of which they eat upon an average two tons. They let the calves suck about a month for the butcher, and three weeks for rearing. In the common management a dairy-maid will look after 14.—The joist in summer is 30 *s.* in winter in the fields 10 *s.* They are kept in winter generally in the fields.

They reckon the profit of fattening a beast of 50 stone at about 50 *s.* or 3 *l.*

Of sheep they keep from 30 to 200; the profit 13 *s.* a head. Their keeping through winter and the spring is grass, but, in very bad weather, on bad hay. The average weight of wool about 9 *lb.*

In the management of their arable lands, they reckon eight horses and as many oxen
necessary

necessary for 100 acres of ploughed ground, if the soil be clay; but if gravel, four of each will do. In the first they use two oxen and two horses in a plough, in the last three horses; and the common quantity they do in a day is about three fourths of an acre.—To their horses they generally give two pecks of oats each *per* week the year round. The summer joist is 40*s.* and they reckon each horse, in all expences, costs about 4*l.* 10*s.* or 5*l.* a year.

Their working oxen they feed on straw in winter, and work them on it. They reckon them better and more profitable than horses.

The time of breaking up the stubbles for a fallow is after barley-sowing: The price of ploughing is 4*s.* an acre, and the depth six inches.

The hire of a cart, three horses and a driver, is 5*s.* a day.

In the hiring and stocking of farms they reckon 400*l.* necessary, for one of 100*l.* a year.

Land sells at 35 years purchase. There are some freeholds of 100*l.* a year, &c.

Tythe is generally compounded, wheat pays 6*s.* an acre, barley 4*s.* 6*d.* and hay 2*s.*

Poor rates 6*d.* in the pound. The employment of the poor women and children is spinning worsted; at which a woman earns about 5*d.* a day. Most drink tea.

The.

The farmers carry their corn about eight or ten miles.

The general œconomy will be seen from the following sketches. One farm consists of,

240 Acres in all	24 Young cattle
80 Arable	150 Sheep
160 Grass	2 Men
£. 180 Rent	2 Boys
10 Horses	2 Maids
6 Oxen	3 Labourers
10 Cows	2 Ploughs
5 Fattening beasts	2 Carts.

Another :

100 Acres in all	18 Young cattle
30 Arable	60 Sheep
70 Grass	1 Man
£. 75 Rent	1 Maid
5 Horses	1 Boy
4 Oxen	1 Labourer
6 Cows	2 Ploughs
2 Beasts	1 Cart,

Another :

57 Acres in all	2 Fattening beasts
16 Arable	8 Young cattle
41 Grass	30 Sheep
£. 40 Rent	1 Boy
2 Horses	1 Maid
2 Oxen	1 Plough
3 Cows	1 Cart,

Another :

80 Acres in all	10 Young cattle
60 Grafs	50 Sheep
20 Arable	1 Man
£. 50 Rent	1 Maid
2 Horfes	1 Plough
3 Oxen	2 Carts.
4 Cows	

Another :

150 Acres in all	30 Young cattle
50 Arable	100 Sheep
100 Grafs	2 Men
£. 100 Rent	1 Boy
6 Horfes	1 Labourer
6 Oxen	2 Ploughs
12 Cows	2 Carts.
8 Fattling beasts	

LABOUR.

In harvest, 1 s. to 2 s. and small beer and milk.

In hay-time, 1 s. 2 d. and ale and beer.

In winter, 1 s.

Mowing grafs, 2 s. to 2 s. 6 d.

Ditching, 5 d. a rood.

Threshing wheat, 3 d. *per* bushel.

———— barley, 2 d.

———— oats, 1 $\frac{1}{2}$ d.

———— beans, 1 $\frac{1}{2}$ d.

Head-man's wages, 12 l. to 14 l.

Next ditto, 11 l.

Boy of 10 or 12, 6 l.

Dairy maid, 5 l.

Other

Other maid, 4*l*.

Women *per* day, in harvest, 1*s*. 1*d*. and
small beer and milk.

———— hay-time, 6*d*. and ditto.

———— in winter, 4*d*. and 5*d*.

IMPLEMENTS.

No waggons.

A cart, 7*l*. 10*s*.

A plough, 1*l*. 2*s*.

A harrow, 10*s*.

Very few rollers,

A scythe, 3*s*. to 5*s*.

A spade, 3*s*. to 4*s*. 6*d*.

Laying a share, 9*d*.

—— a coulter, 9*d*.

Shoeing, 2*d*.

PROVISIONS.

Rye-bread, - - - 1*d*.

Cheese, - - - 2*d*. and 2½*d*.

Butter, - - - 7½—18 oz.

Beef, - - - 3½

Mutton, - - - 3½

Veal, - - - 3½

Pork, - - - 4

Milk, - - - ½*d*. *per* pint.

Potatoes, - - - 6*d*. *per* peck.

Candles, - - - 6*d*.

Soap, - - - 6*d*.

Labourer's house-rent, 35*s*.

Their firing, 25*s*.

Their tools chiefly found.

ADDENDA.

ADDENDA.

The following note came too late to be inserted
in its proper place, at the word *poor*,
page 68, line 11.

“ If my time had not obliged me to leave *Newton* so soon, Mr. *Comber* would have carried me to see three great *Improvers*, who lie in a line from South to North, to the West of *East Newton*. These are *Francis Cholmondley* of *Brandsby-Hall*, Esq; *Charles Lord Fairfax* of *Gilling-Castle*, and *Thomas Earl of Falconberg* of *Newburg-Hall*. The following is Mr. *Comber*’s account :

Mr. *Cholmondley* has converted several considerable *Warrens* and *Moors* into good arable, pasture, and meadow, and raised very good quick-fences, with proper plantations of trees in the hedge-rows, so as to create a defence for the cattle on the bleak-heights; and his cultivation has been carried on with large quantities of lime, which answers well on that fresh land. I must observe that he chiefly plants the large maples (plain and striped,) and they appear in effect to suit his soil well. I must add, that he has built an exceeding good house, and laid out handsome gardens, and got removed to a proper distance the church, which is new built and has a good effect. When I add, that he has a fine prospect of *York-minster* and the cultivated country around, I need hardly say, that *Brandsley* is become one of the most improved places in the North Riding.

The improvements about *Gilling* are great, though of somewhat a difference. Lord *Fairfax* has been indeed employed about them many years. The castle stands very high, and has a noble and diversified prospect, but a *confined* one, whereas Mr. *Cholmondley*’s is an extensive one. Lord *Fairfax* has a command of

an whole vale, comprehending the plantations of Mr. *Worsley* at *Hovingham*, the old castle at *Slingsbey*, and terminates in a view of the wolds about *Malton*. Directly under the hill lies the beautiful village of *Oswaldkirk*, diversified with all that can make a village beautiful, water excepted, which is wanted in this prospect.

He has changed a park which would not fatten his deer, into beautiful closes of *pasture* and *meadow*, the divisions and subdivisions being made by good quick hedges of his own raising, and plantations which rise amazingly fast. From the side opposite to that which I have described, you ride through cultivated grounds and a fine lawn by a gentle ascent, with flourishing plantations on each side of you, to an elegant pavillion or summer dining room, erected by — *Carr*, Esq; now Lord Mayor of *York*. The plantations are chiefly of fir, the soil being here very poor and craggy. From this pavillion you have certainly a very pleasing prospect. You look down upon a fine sheet of water, from the promontory on which the pavillion stands. In front you look upon the country towards Lord *Falconberg's*, and on each side you have the country in *contraste*; *here* a rich cultivated country, under crags, rocks, &c.; *there* a country quite barren, heath, &c. such as these whole plantations have been won from; and after you turn your back to the pavillion, you see all the plantations of Lord *Fairfax*, and the same prospect at a distance at distance, as you viewed near when at the first front of the house.

In this castle are two rooms worth notice, *viz.* a very good parlour, in modern taste, and a remarkable antique dining-room, of a compleat size and good proportion; both the floor and sides wainscoted with fine oak, and the windows with painted glass, the arms of all the gentlemen in the weapon-take.

The situation of Lord *Falconberg's* seat, is the reverse of that of *Gilling*, *Newburg* being very low, so low that half the expence of improvements is in drains and buildings.

buildings.—The house also is long, and a great part of it being burnt down some years since by carelessness of a glazier, his Lordship chose to rebuild it in the same plan as the old, rather than have it *irregular*. The beauty of this place consists chiefly of two things; 1st, The wood behind it laid out into agreeable walks, only rather too formal; and 2dly, The fine romantic prospect in front; which is bound by crags, and has in the center the ruins of *Byland* [*Bellaband*] *Abby*.

But his Lordship's improvement of his park and low grounds is very considerable. He has employed teams of oxen of a very unusual length, and ploughs proportionally strong, with men sufficient in number to keep them in the ground, so as to tear through every obstacle, and reduce the most unpromising parts into due culture, and then to raise upon them fine plantations. He rightly judged that ground, which had produced such trees as those whose roots he found, must be able to raise such again, when the soil was properly opened and reduced.

Nor was he content to stop at the limits of his park. He has extended his plantations very considerably beyond it on to warrens and moors. The soil produced stones for a fence at a very small expence; and he has now plantations as flourishing on that hitherto useless ground as on much richer.

His low ground he has drained, though I confess, not in so perfect a manner as Lord *Rockingham*, viz. With wood which will certainly rot, instead of stone.

It is impossible for any one who loves his country, to pass over these improvements, which lie all in a chain, without a very sensible pleasure."

END of the SECOND VOLUME.



